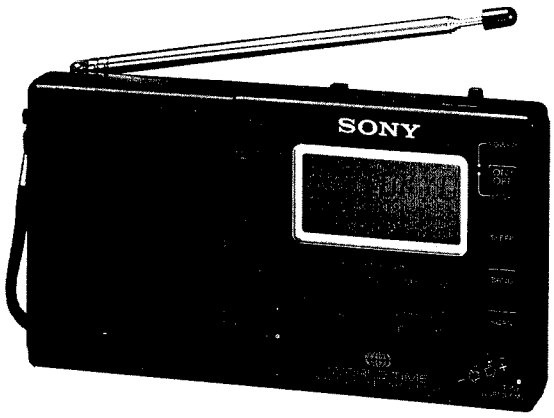
ICF-SW33

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model



SPECIFICATIONS

Circuit system — SW: Dual conversion superheterodyne
MW/FM: Single conversion superheterodyne

Frequency range

Band	Meter band	Frequency	Channel step
MW		531–1710 kHz *1	9 kHz
		530–1710 kHz *1	10 kHz
		531–1602 kHz *2	9 kHz
		530–1610 kHz *2	10 kHz
SW	75 m	3700–4200 kHz *1	1 kHz
		3850–4200 kHz *2	
	60 m	4650–5150 kHz	
	49 m	5800–6300 kHz	
	41 m	6950–7450 kHz	
	31 m	9375–10000 kHz	
	25 m	11525–12150 kHz	
	21 m	13375–14000 kHz	
	19 m	14975–15600 kHz	
	16 m	17475–18100 kHz	
	13 m	21320–21950 kHz	
	11 m	25475–26100 kHz	
FM		87.50–108.00 MHz *3	0.05 MHz
		76.00–108.00 MHz *4	

*1 Countries except for Italy and Saudi Arabia
*2 Italy and Saudi Arabia
*3 Germany, Austria, Scandinavian countries, Italy and Saudi Arabia
*4 Countries except for *3

Intermediate frequency — MW: 450 kHz
SW: 21.44 MHz (1st)
450 kHz (2nd)
FM: 10.7 MHz

Antennas — SW/FM: Telescopic antenna
MW: Built-in ferrite bar antenna

Speaker — Approx. ø6.6 cm (2 1/8 inches)

Power output — 200 mW (at 10 % harmonic distortion)

Output — PHONES jack (stereo minijack)
REC OUT jack (minijack)
Output level 0.775 mV (–60 dB)
Output impedance 1 kilohm

Power requirements — 4.5 V DC, three R6 (size AA) batteries
DC IN 4.5 V jack accepts:
Sony AC-E45M AC power adaptor (not supplied)
Sony DCC-E145L car battery cord (not supplied) for use with 12 V car battery

Battery life — Approx. 11 hours of listening for 4 hours a day at a normal volume using Sony batteries SUM-3 (NS)

Dimensions — Approx. 165.7 x 93 x 30.5 mm (w/h/d)
(Approx. 6 5/8 x 3 3/4 x 1 1/4 inches)
not incl. projecting parts and controls.

Mass — Approx. 401 g (14.15 oz) incl. batteries.

Accessories supplied — Carrying case (1)
SW compact antenna (1)
Short wave guide (1) only English version

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Accessories not supplied — AC power adaptor AC-E45M
Car battery cord DCC-E145L
MW/SW wide range antenna AN-1/AN-102
Connecting cord RK-G69 (miniplug to miniplug, no resistor type)

Your dealer may not handle some of the above listed accessories. Please ask the dealer for detailed information about them available in your country.

MW/SW/FM STEREO
PLL SYNTHESIZED RECEIVER

SONY®

MICROFILM

TABLE OF CONTENTS

Section	Title	Page
	Specifications	1
	Features	2
	Servicing note	2
SECTION 1.	**GENERAL**	
1-1.	Location of Controls	3
1-2.	Setting the clock	4
1-3.	Manual Tuning	5
1-4.	Scan Tuning	6
1-5.	Preset Tuning	6
SECTION 2.	**IC PIN DESCRIPTION**	
2-1.	IC350 μ PD17201AGF-655-3B9	7
2-2.	IC301 μ PD1724GB-612-1A7	8
SECTION 3.	**ELECTRICAL ADJUSTMENTS**	10
SECTION 4.	**DIAGRAMS**	
4-1.	Block Diagram	14
4-2.	IC Block Diagrams	16
4-3.	Semiconductor Lead Layouts	17
4-4.	Printed Wiring Boards	18
4-5.	Schematic Diagram	21
SECTION 5.	**EXPLODED VIEW**	26
SECTION 6.	**ELECTRICAL PARTS LIST**	28
	Hardware List	34

FEATURES

- An MW/SW/FM stereo portable receiver with worldwide band coverage.
- Quartz controlled PLL (Phase Locked Loop) synthesizer system using a microcomputer makes pinpoint tuning easy.
- Worldtime clock for international use.
  Up to 5 local times in the world can be preset.
- Current time in some place in the world can be checked.
- 17 stations in total can be preset.
- The tuned frequency is digitally displayed to make searching of the desired station easier.
- You can preset a desired station to be received at a desired time. 2 buttons are equipped for 2 different time settings.
- The radio can be turned off automatically after about 60 minutes (Sleep timer).
- FM stereo reception through stereo earphones.

SERVICING NOTE

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ℃ during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY - RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÉCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÉCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

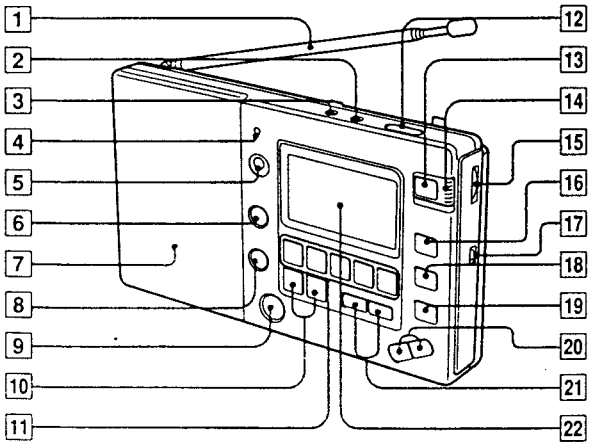
SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. LOCATION OF CONTROLS

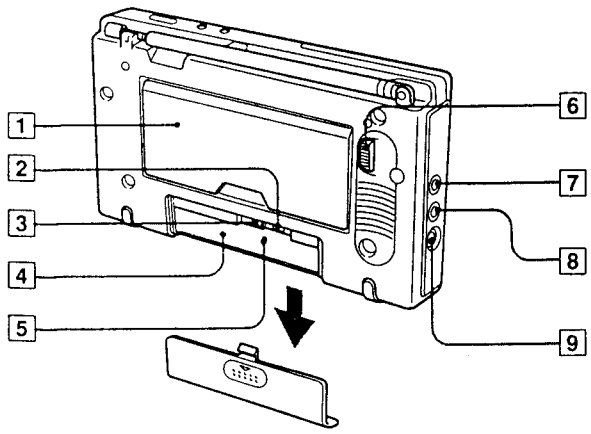
See the pages indicated in ● for details.

Front, Right Side and Upper Panel



1 Telescopic antenna ㉛
2 HOME TIME SET button ㉑
3 BATT(battery)/DST(Daylight Saving Time) button ⑮ ㉓
4 TUNE (tuning) indicator
Lights up when a station is tuned in.
5 KEY PROTECT ⊶ button ㉝
6 ENTER button ㉘ ㉟
7 Speaker
8 HOME/WORLD button ⑲
9 METER BAND/TIME ZONE button ㉑
10 STANDBY MEMORY S a, S b buttons ㉞
11 FREQ(frequency)/CITY MEMORY PRESET buttons ㉘ ㉟
12 LIGHT button ㉝
13 ON/OFF button ㉚
Press this button to turn on and turn off the radio.
14 POWER/LOCK switch ㉑
When using the unit, set this switch to POWER. Set the switch to LOCK when carrrying the unit. When this switch is set to LOCK, all the functions of the buttons are locked.
15 VOL (volume) control ㉚
16 SLEEP button ㉝
17 TONE selector ㉛
18 BAND button ㉚
19 SCAN button ㉔
20 TUNE(tuning)/WORLD TIME +,– buttons ㉑ ㉚
21 STANDBY/STANDBY TIME SET a, b buttons ㉞
22 Display window

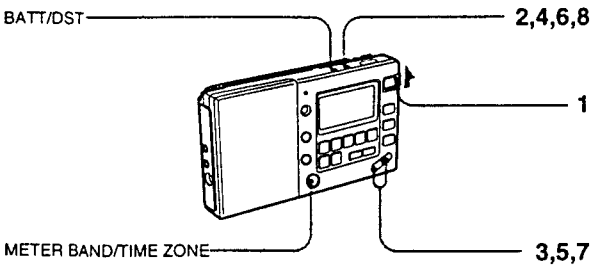
Rear, Left Side



1 Stand
2 9/10 MW CH STEP (9 kHz/10 kHz MW channel step) selector ㉙
3 12H/24H (12-hour/24-hour clock system) button ⑲
4 Battery compartment ⑭
5 RESET button (inside the battery compartment)
When this button is pressed, all the stored memories are cleared and the clock is reset. The unit will return to the same condition as when you inserted the batteries for the first time.
6 SENS (sensitivity) DX/LOCAL selector ㉝
Normally set this selector to DX. When the scan stops so often, or received station is too strong to become distorted, set it to LOCAL.
7 REC OUT (recording out) jack ㊹
8 PHONES (earphones) jack (stereo mini) ㉛
9 DC IN 4.5 V ⊖⊂⊕ (external power input) jack ⑰

1-2. SETTING THE CLOCK

Note
Set the clock when the radio is turned off.



When you insert the batteries for the first time, digits flash.

This illustration shows 24-hour clock system

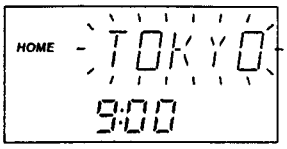
Note
If you take longer than 64 seconds to proceed a step, the unit returns to the condition before the step 2. In this case, proceed again from the step 2.

Example: When you set the home time at 15:30 in Tokyo

1 Set the POWER/LOCK switch to POWER.

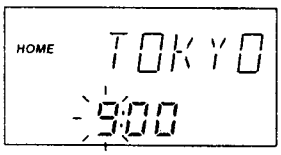
2 Press the HOME TIME SET button for more than 1 second.

3 Press the + or – button to select the time difference or city name in your area.

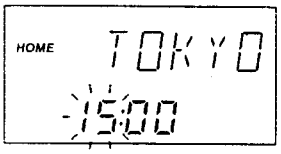


- When you keep the + or – button pressed, indications change constantly in the order shown in the table on page 25. Each time you press the + or – button while keeping the METER BAND/TIME ZONE button pressed, only the time differences appear in the order, thus skipping city names.
- When a city name has more than 5 letters, the letters move on the display. All the letters appear twice and then the first 5 letters flash.

4 Press the HOME TIME SET button.

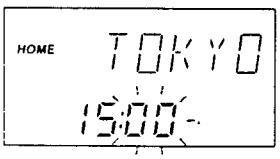


5 Adjust the hour with the + or – button.

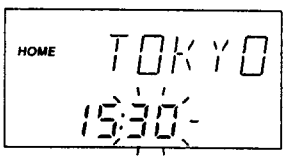


When you keep the button pressed, hour indication changes constantly.

6 Press the HOME TIME SET button.

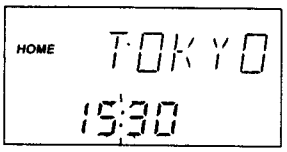


7 Adjust the minute with the + or – button.



When you keep the button pressed, minute indication changes constantly.

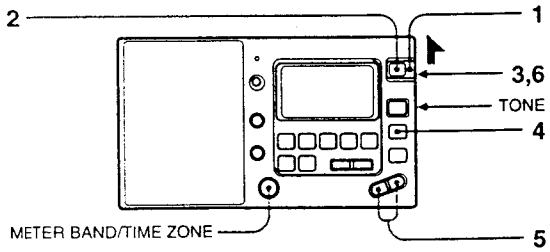
8 Press the HOME TIME SET button.
Just when you press the button, the clock starts operating from 0 second of that time. " : " flashes.



For areas where "Daylight Saving Time" is used
When you set the clock during this period, press the BATT/DST button between the steps 1 and 2. "☼" appears. At the end of the daylight saving time, press the BATT/DST button. Current time indication changes automatically.

Note
Press the BATT/DST button only when the radio is turned off.
You can set the Daylight Saving Time for HOME time and WORLD time respectively.

1-3. MANUAL TUNING



1 **Set the POWER/LOCK switch to POWER.**
2 **Press the ON/OFF button to turn the radio on.**
3 **Turn the VOL control a little to get sound.**
4 **Press the BAND button to select the band.**
Each press of the button changes the band in the following order.
→ MW → SW → FM →
(The display window shows the last frequency chosen in each band.)
For SW, while pressing the METER BAND/TIME ZONE button, press the TUNE + or – button to select the meter band.
5 **Tune in the desired station by pressing the TUNE + or – button.**
If you keep the button pressed, frequencies change continuously.
For the channel step, see the table on page 35.
6 **Adjust the volume.**

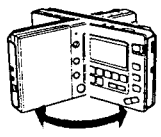
To turn the radio off
Press the ON/OFF button.

On TONE selector
When you listen to the news, set the TONE selector to NEWS. Human voice will be heard more clearly. When you listen to music, set it to MUSIC.

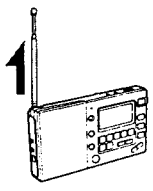
To enjoy FM stereo
Connect the stereo earphones to the PHONES jack.

To Improve Reception

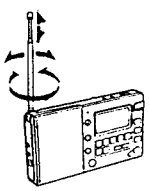
MW: Since the reception is affected by the position of the radio, rotate the unit horizontally for optimum reception.



SW: Pull out the telescopic antenna to its full length and set it vertically. Usually the telescopic antenna is sufficient for SW reception. However, in a metal or concrete building, use the wire antenna supplied.

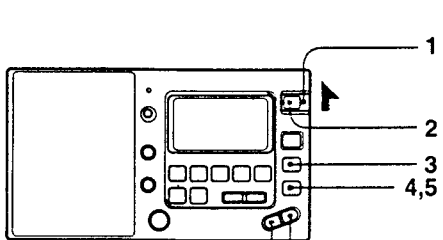


FM: Extend the telescopic antenna and adjust the length, direction and angle for the best reception.



1-4. SCAN TUNING

Use scan tuning to automatically scan the stations in the frequency range of a broadcast band.



1 **Set the POWER/LOCK switch to POWER.**
2 **Press the ON/OFF button to turn the radio on.**
3 **Press the BAND button to select the band.**
For SW, select the meter band, too.
4 **Press the SCAN button.**
Within the frequency range of the table on page 35, scan tuning will begin and stop automatically for about 2.5 seconds when a station is received.
5 **When your desired station is tuned in, press the SCAN button.**
When you do not press the SCAN button, scan tuning will continue.
6 **Tune the station more precisely with the TUNE + or – button, if necessary.**

On SENS selector
Normally set this selector to DX. When the scan stops so often, set it to LOCAL.

Frequency range and channel step of each broadcast band

Band	Meter band	Frequency	Channel step
MW		531–1710 kHz *1	9 kHz
		530–1710 kHz *1	10 kHz
		531–1602 kHz *2	9 kHz
		530–1610 kHz *2	10 kHz
SW	75 m	3700–4200 kHz *1	1 kHz (Manual tuning) 5 kHz (Scan tuning)
		3850–4200 kHz *2	
	60 m	4650–5150 kHz	
	49 m	5800–6300 kHz	
	41 m	6950–7450 kHz	
	31 m	9375–10000 kHz	
	25 m	11525–12150 kHz	
	21 m	13375–14000 kHz	
	19 m	14975–15600 kHz	
	16 m	17475–18100 kHz	
	13 m	21320–21950 kHz	
	11 m	25475–26100 kHz	
FM		87.50–108.00 MHz *3	0.05 MHz
		76.00–108.00 MHz *4	

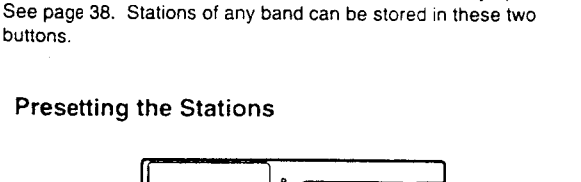
*1 Countries except for Italy and Saudi Arabia
*2 Italy and Saudi Arabia
*3 Germany, Austria, Scandinavian countries, Italy and Saudi Arabia
*4 Countries except for *3

1-5. PRESET TUNING

You can preset up to five stations for each band in the MEMORY PRESET buttons M1 to M5 (a total of 15 stations) and 2 stations in the STANDBY MEMORY buttons S a and S b .

Note on the preset stations stored in the STANDBY MEMORY buttons
These stations can be used as the memories for standby operation. See page 38. Stations of any band can be stored in these two buttons.

Presetting the Stations



1 **Tune in the desired station according to the procedures explained in "Manual Tuning" or "Scan Tuning".**

2 **While keeping the ENTER button pressed, press one of the MEMORY PRESET buttons M1 to M5, or STANDBY MEMORY buttons S a or S b in which you want to preset.**
"PRESET ▼" and preset number (or, 3 or 5) appear in the display window.

To change the preset station
Preset a new station in the number of which you want to change the station. The previous station will be canceled.

Listening to the Preset Stations

1 **Press the POWER/LOCK switch to POWER.**
2 **Press the ON/OFF button to turn the radio on.**
3 **Press the BAND button to select the band.**
For STANDBY MEMORY button S a or S b, skip this step.
4 **Press the desired MEMORY PRESET button M1 to M5 or STANDBY MEMORY button S a or S b.**
5 **Adjust the volume.**

SECTION 2
IC PIN DESCRIPTION

2-1. IC350 μPD17201AGF-655-3B9

Pin No.	Pin name	Description
1 ~ 32	LCD32 ~ LCD1	LCD segment terminal. Driving voltage : 3.1V Duty : 1/3 Frame frequency : 85.3Hz Bias : 1/3
33	GND	GND
34	LCD0	LCD segment terminal.
35	VADC	A/D converter positive power supply.
36	ADC0	A/D converter input. : BATT remainder reference input.
37	ADC1	: OFF LOCK input (Hi : LOCK, Lo : ON)
38	ADC2	: BATT remainder input.
39	ADC3	: SCAN STOP SD input.
40	GND ADC	A/D converter GND.
41	INT	ACK : Data communication of 17201 to 1724.
42	POA0	Key matrix. : Key source.
43	POA1	
44	POA2	Key matrix. : Key source.
45	POA3	
46 ~ 49	POB0 ~ POB3	Key matrix. : Key return.
50	POC0	Key matrix. : Diode.
51	POC1	CLK ACK — Data communication of 17201 to 1724.
52	POC2	DATA
53	POC3	REQ
54	POD0	CLK UP
55	POD1	MUTE : MUTE output active "L".
56	POD2	POWER CHECK : BATT remainder DET output "H".
57	POD3	FAIL : BACK UP voltage DET input. (Hi : RADIO ON practicable, Lo : BACK UP)
58	PIA0	DATA + B : Data communication of 17201 to 1724. PULL UP terminal.
59	PIA1	POWER (1724) : 1724 Power ON/OFF terminal "L".
60	PIA2	LIGHT : BACK LIGHT ON/OFF terminal "H".
61	REM	Not use.
62	VDD	Power supply.

INITIAL-STATE SETTING

MODEL / Short land	UK E AEP Australian	US Canadian	Germany Austrian Belgium Scandinavian	Italian Saudi Arabia
A0	Short	Open	Short	Open
A1	Short	Short	Open	Open

Pin No.	Pin name	Description	
63	X IN	Main clock. 2.62MHz Ceramic vibrator.	
64	X OUT		
65	$\overline{\text{RESET}}$	Set to reset when less 2.0V. "L".	
66	VREG	Sub clock. Vibrator regulator terminal.	
67	$\overline{\text{WDOUT}}$	Not use.	
68	XT IN	Sub clock. 32.768kHz Crystal vibrator.	
69	XT OUT		
70	VLCD0	LCD drive referencce voltage output.	: Reference voltage output.
71	VLCDC		: Reference voltage adjust.
72	VLCD1		: Doubler output.
73	VLCD2		: Tripler output.
74	CAPH	LCD drive step-up condenser.	
75	CAPL		
76 ~ 78	COM0 ~ COM2	LCD common terminal.	Driving voltage : 3.1V Duty: 1/3 Frame frequency : 85.3Hz Bias : 1/3
79	LCD34	LCD segment terminal.	Driving voltage : 3.1V Duty: 1/3 Frame frequency : 85.3Hz Bias : 1/3
80	LCD33		

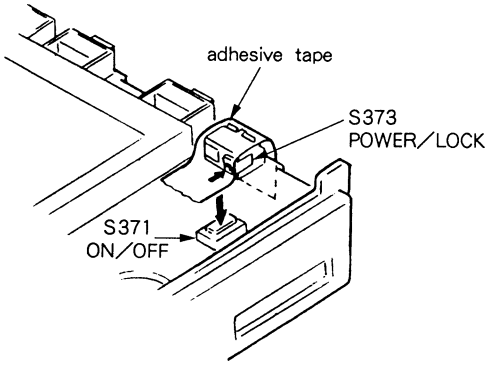
2-2. IC301 μPD1724GB-612-1A7

Pin No.	Pin name	Description
1 ~ 10	LCD10 ~ LCD1	LCD segment terminal. Driving voltage : 3.1V Duty : 1/3 Frame frequency : 100Hz Bias : 1/2
11	NC	Not use.
12 ~ 14	COM3 ~ COM1	LCD common terminal. Driving voltage : 3.1V Duty : 1/3 Frame frequency : 100Hz Bias : 1/2
15	VSS3	LCD driving step-up circuit.
16	CAP2	
17	CAP1	
18	VSS2	
19	VDP	Not use.
20	VGP	BEEP : BUZZER sound output when STANDBY ON.
21	NC	Not use.
22	VDD	Power supply.
23	VCOH	FM VCO input.
24	VCOM	SW VCO input.
25	VCOL	MW VCO input.

Pin No.	Pin name	Description	
26	VSS1	GND	
27	EO1	Not use.	
28	EO2	PLL phase comparator output. →to LPF.	
29	CE	Pull up.	
30	X0	75kHz Crystal vibrator.	
31	X1		
32	VSS4	Crystal vibrator driving regulator.	
33	PA3	Power : Radio ON/OFF output. "H"	
34	PA2	DATA	Data communication input. 17201→1724
35	PA1	REQ	
36	PA0	CLK UP	
37	PB3	Not use.	
38	PB2		
39	PB1	BAND SW : BAND switching. FM : "L", MW : "L", SW : "H"	
40	PB0	BAND AM : BAND switching. FM : "L", MW : "H", SW : "H"	
41	PC3	Not use.	
42	PC2	SW 13mb : FM "L", MW "L", SW expect 13mb "H".	
43	PC1	CLK ACK	
44	PC0	ACK	
45 ≀ 48	K3 ≀ K0	Not use.	
49	NC	Not use.	
50			
51 ≀ 56	LCD16 ≀ LCD11	LCD segment terminal. Driving voltage : 3.1V Duty : 1/3 Frame frequency : 100Hz Bias : 1/2	

SECTION 3
ELECTRICAL ADJUSTMENTS

Preparation:

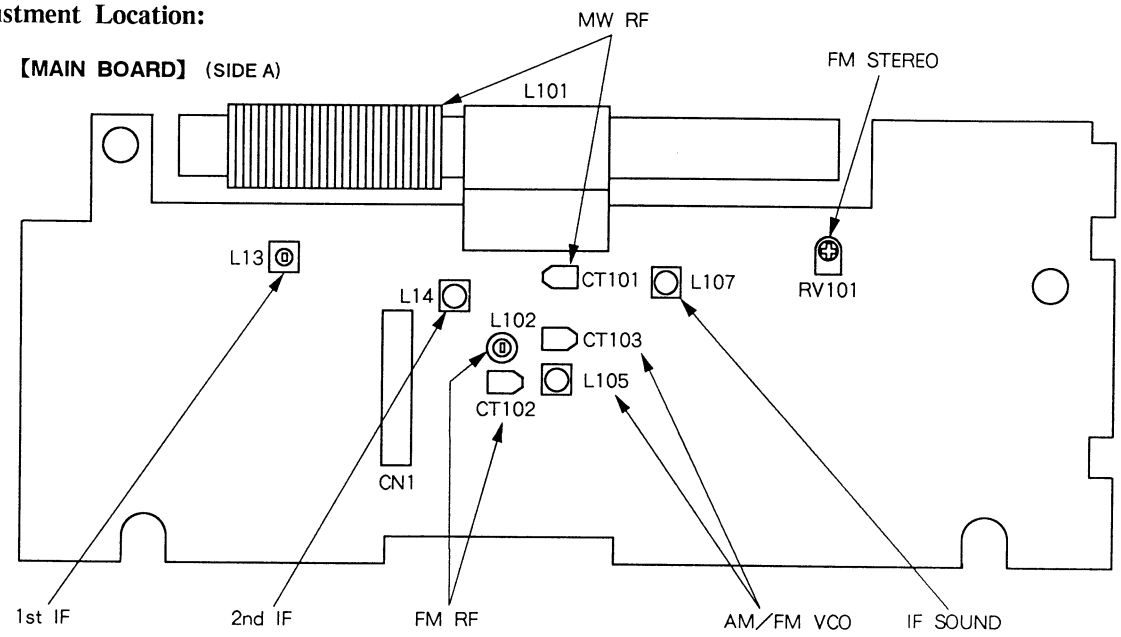


How to turn the power ON/OFF.

1. Press down portion A of S373 (Power/Lock) switch by adhesive tape.
2. Push the S371 (ON/OFF) switch.

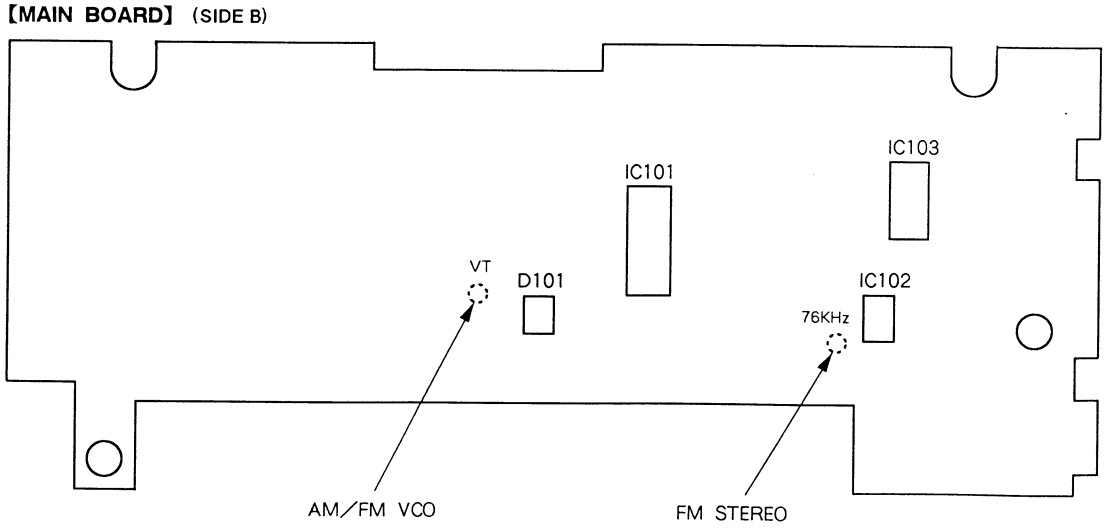
Adjustment Location:

[MAIN BOARD] (SIDE A)



Test Point Location:

[MAIN BOARD] (SIDE B)

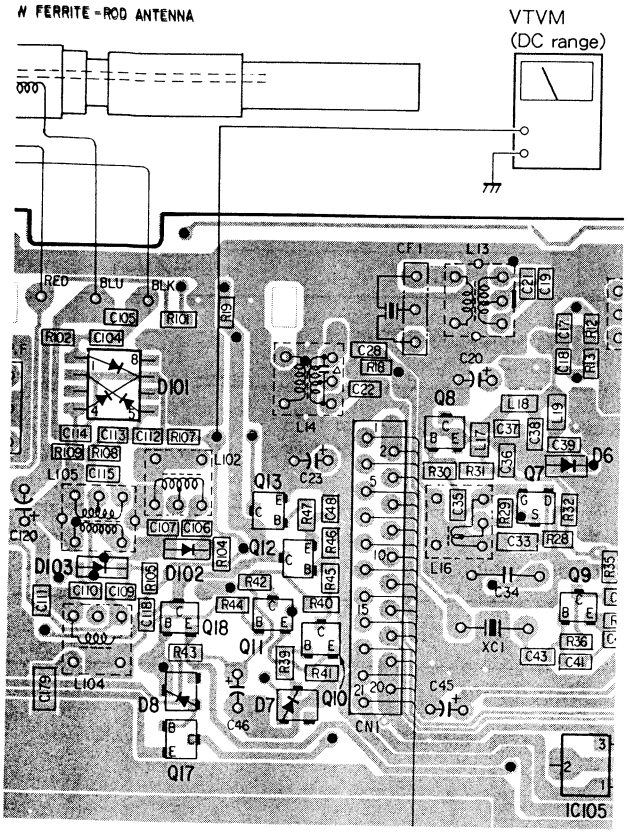


AM SECTION

VCO VOLTAGE ADJUSTMENT

Setup:

VOLUME : as required
BAND : AM (MW→SW)
SENS : DX



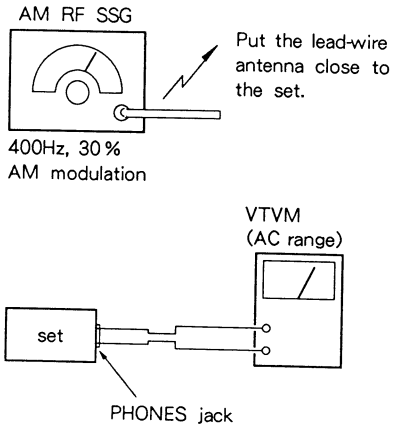
Procedure:

1. Tune the set to MW 531kHz.
2. Adjust L105 to obtain a 0.9 – 1.1V on the VOM.
3. Tune the set to MW 1710kHz.
4. Adjust CT103 to obtain a 7.9 – 8.1V on the VOM.
5. Repeat the above steps several times.
6. Tune the set to SW 3700kHz.
7. Confirm that the voltage reading on the VOM is 1.0 – 2.0V.
8. Tune the set to SW 26100kHz.
9. Confirm that the voltage reading on the VOM is 11.5 – 12.0V.

MW RF ADJUSTMENT

Setup:

VOLUME : as required
BAND : MW
SENS : DX



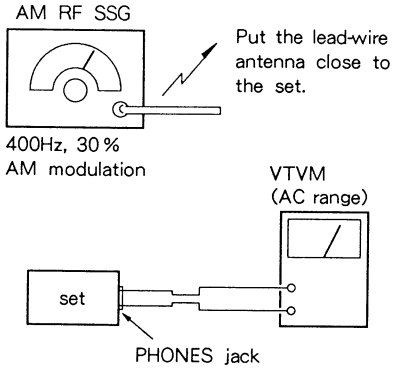
Procedure:

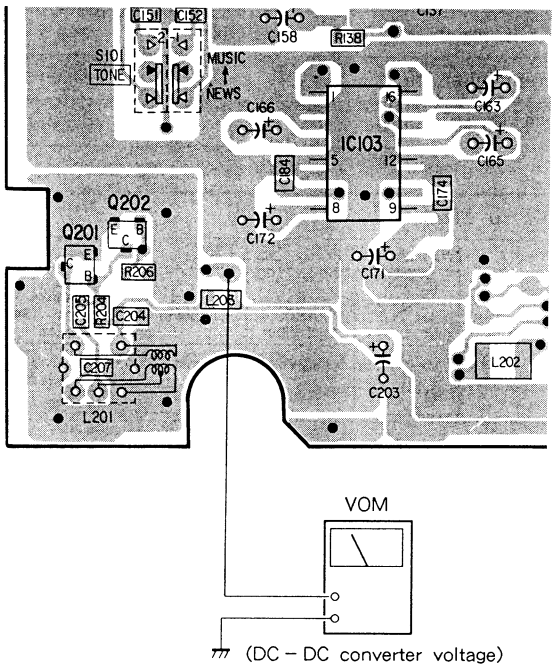
1. Set the frequencies of the AM RF SG and the frequency display of the set to 585kHz.
2. Adjust L101 (Ferrite – rod Antenna) to obtain a maximum reading on the VTVM.
3. Set the frequencies of the AM RF SG and the frequency display of the set to 1485kHz.
4. Adjust CT101 to obtain a maximum reading on the VTVM.
5. Repeat the above steps several times.

IF SOUND CHECK

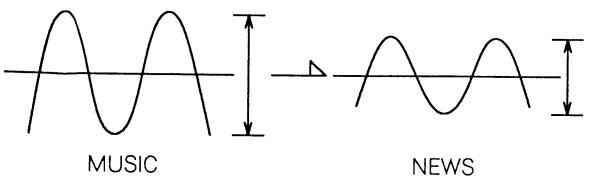
Setup:

VOLUME : as required
BAND : MW

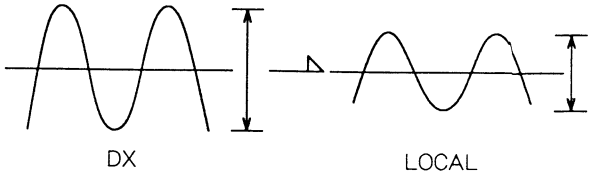




1. Confirm that the voltage reading on the VOM is 14.5V from DC – DC converter voltage.
2. Adjust L107 to obtain a maximum waveform on the oscilloscope.
3. Set the frequencies of the AM RF SG and the frequency display of the set to 999kHz.
4. Confirm that the waveforms on the oscilloscope is transformation like a bellow illustration when S101 (TONE) switching to MUSIC side and NEWS side.



5. Confirm that the waveforms on the oscilloscope is transformation like a bellow illustration when S1 (SENS) switching to DX side and LOCAL side.

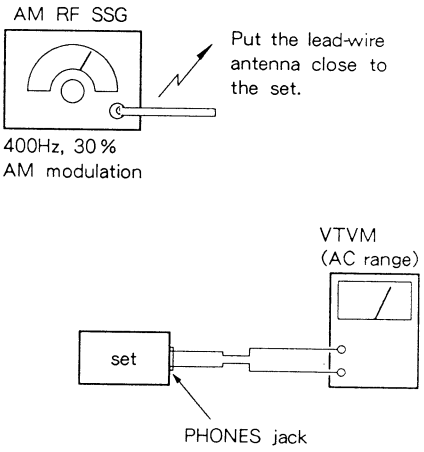


6. Confirm that hear the sound after insert the HEADPHONES into PHONES jack.

1st/2nd IF ADJUSTMENT

Setup:

VOLUME : as required
BAND : SW
SENS : DX



Procedure:

- **1st IF ADJUSTMENT**
  1. Set the frequencies of the AM RF SG and the frequency display of the set to 3700kHz.
  2. Adjust L13 to obtain a maximum reading on the VTVM.
- **2nd IF ADJUSTMENT**
  1. Set the frequencies of the AM RF SG and the frequency display of the set to 3700kHz.
  2. Adjust L14 to obtain a maximum reading on the VTVM.

FM SECTION

VCO VOLTAGE CHECK

Note: 1) This adjustment should be performed after the AM VCO VOLTAGE ADJUSTMENT.
2) Test point is identical the AM VCO VOLTAGE ADJUSTMENT.

Setup:

VOLUME : as required
BAND : FM

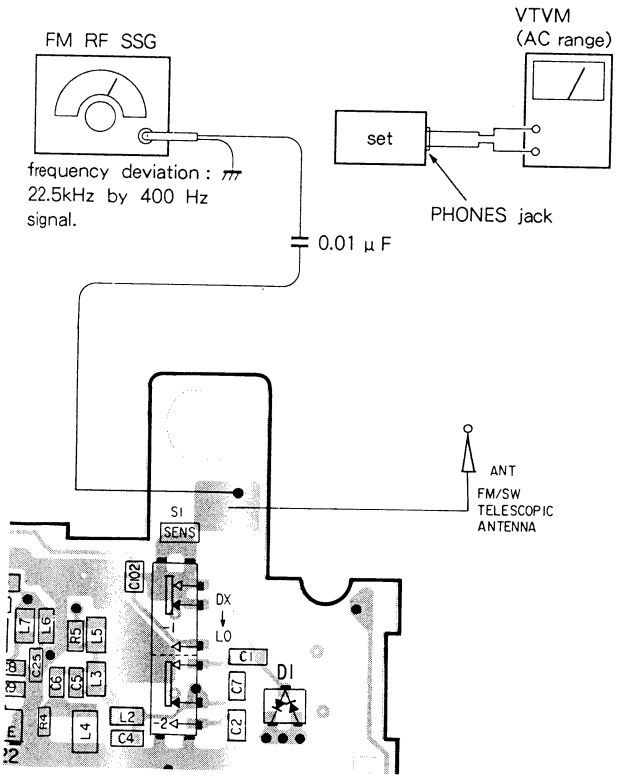
Procedure:

1. Tune the set to FM 76.0MHz.
2. Confirm that the voltage reading on the VOM is 0.8 – 1.8V.
3. Tune the set to FM 108.0MHz.
4. Confirm that the voltage reading on the VOM is 11.2 – 12.2V.

FM RF ADJUSTMENT

Setup:

VOLUME : as required
BAND : FM



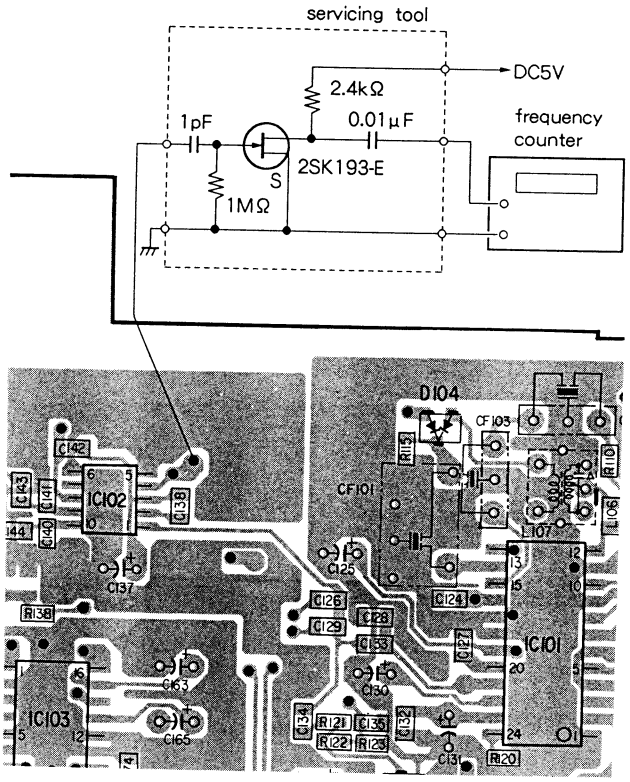
Procedure:

1. Set the frequencies of the FM RF SSG and the frequency display of the set to 108.0kHz.
2. Adjust CT102 to obtain a maximum reading on the VTVM.
3. Set the frequencies of the FM RF SSG and the frequency display of the set to 76.0kHz.
4. Adjust L102 to obtain a maximum reading on the VTVM.
5. Repeat the above steps several times.

FM STEREO ADJUSTMENT

Setup:

VOLUME : as required
BAND : FM

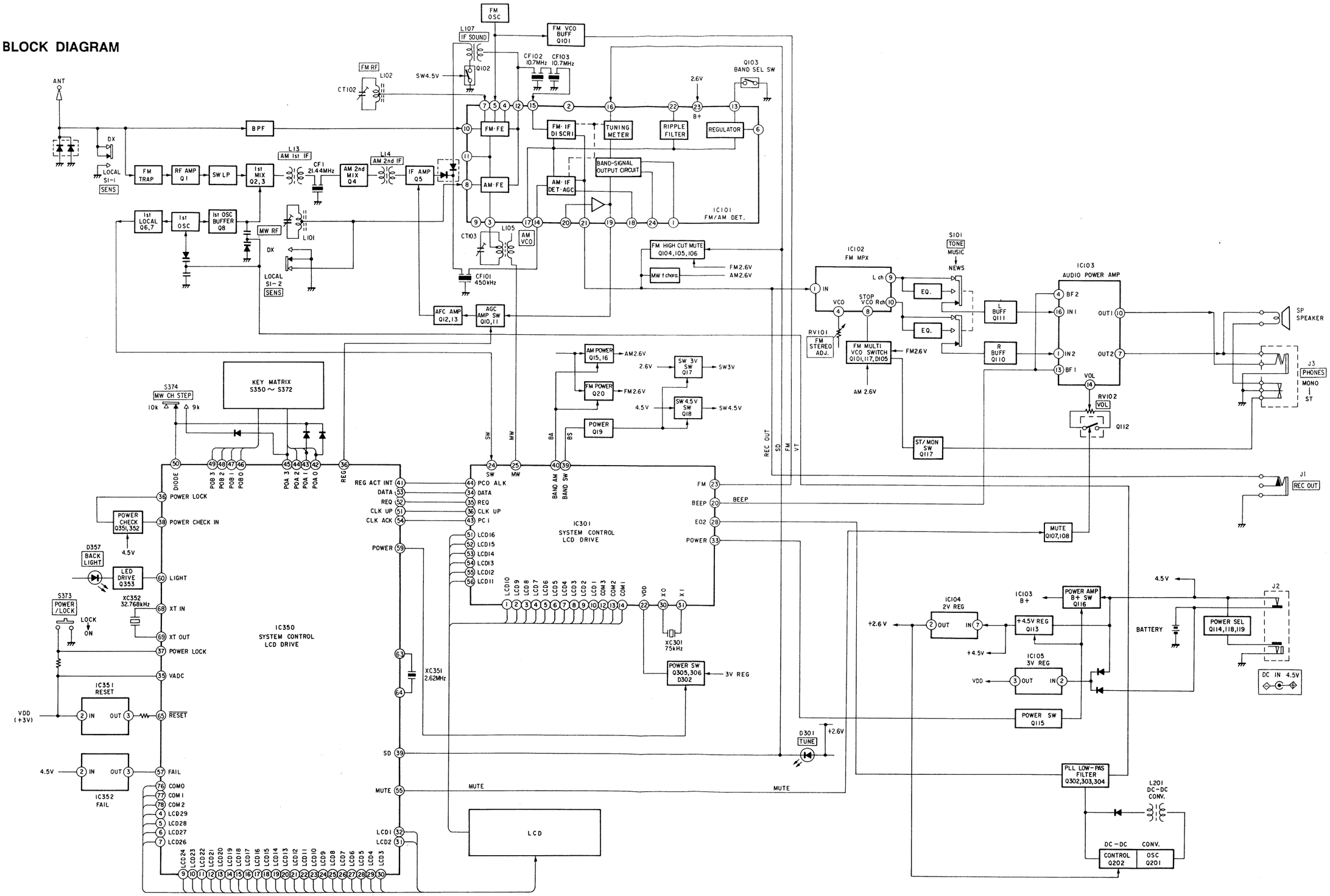


Procedure:

1. Insert the HEADPHONES into PHONES jack.
2. Connect a capacitor (10uF) between pin 21 of IC1 and GRAND.
3. Tune the set to FM 108.0MHz.
4. Adjust RV101 to obtain 75.9 – 76.1kHz on the frequency counter.

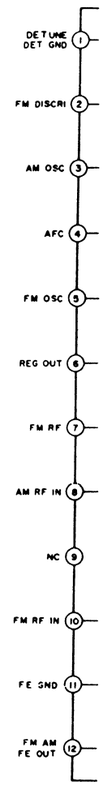
SECTION 4
DIAGRAMS

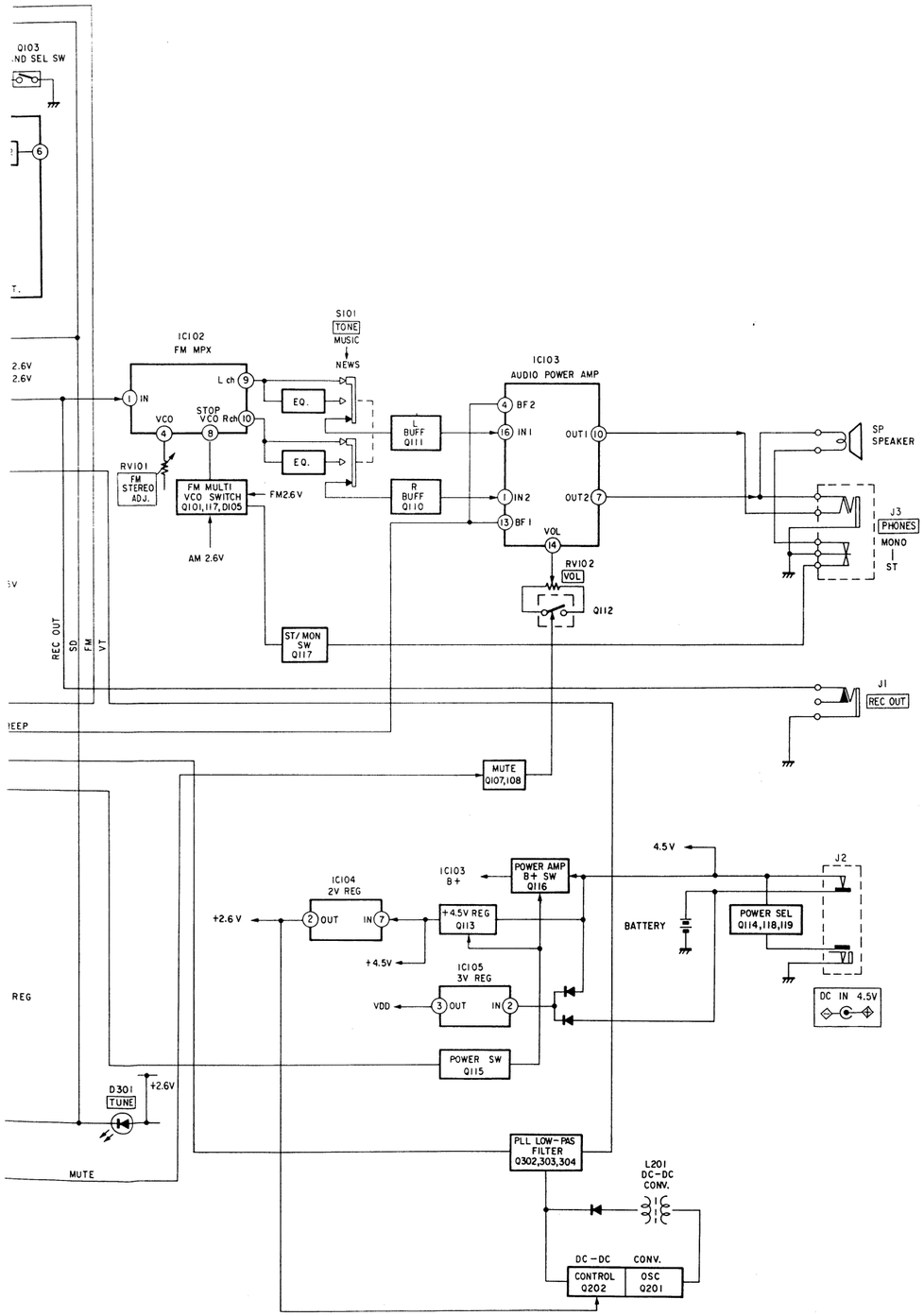
4-1. BLOCK DIAGRAM



4-2. IC

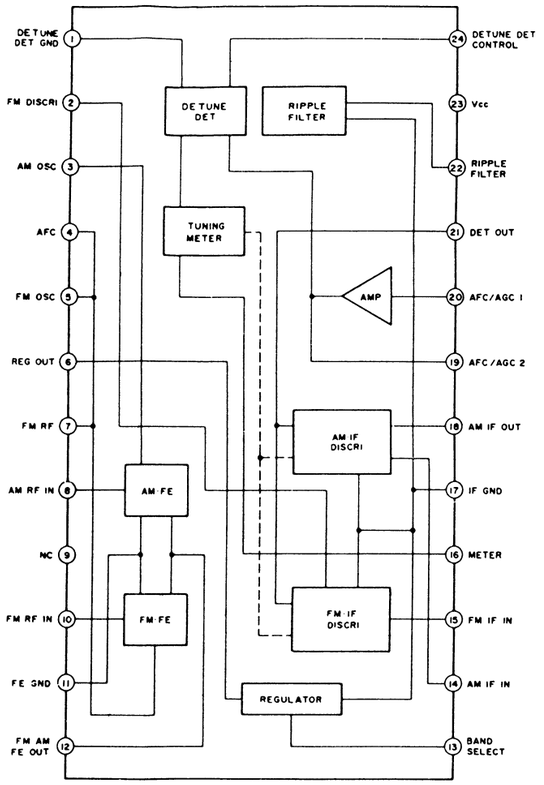
IC1



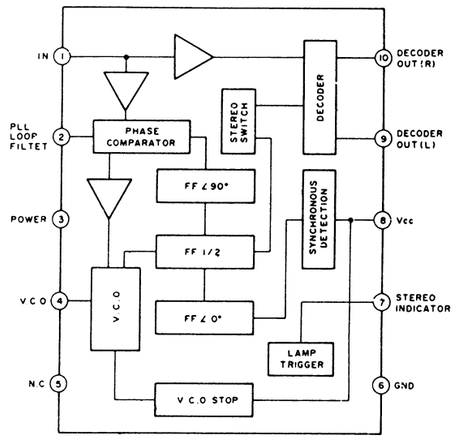


4-2. IC BLOCK DIAGRAMS

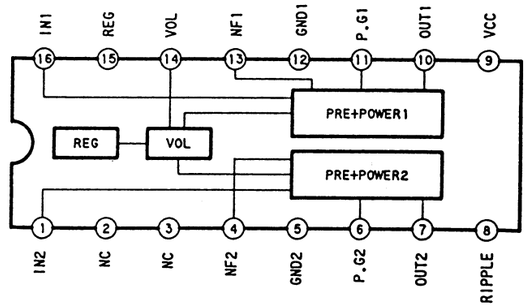
IC101 CX20111



IC102 LA3335M

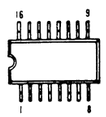


IC103 CXA1522M



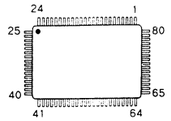
4-3. SEMICONDUCTOR LEAD LAYOUTS

CXA1522M

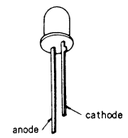


(TOP VIEW)

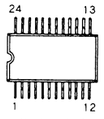
μPD17201AGF-655-3B9



SLP381F-51-AB

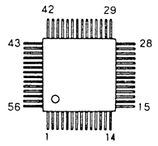


CX20111



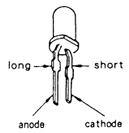
(TOP VIEW)

μPD1724GB-612-1A7



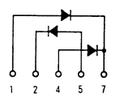
MARKING SIDE VIEW

TLR-124

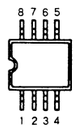


LA3335M

KV1563MTL-2,3

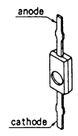


LA5002M



(TOP VIEW)

1SS279
1T33



• Semiconductor Location

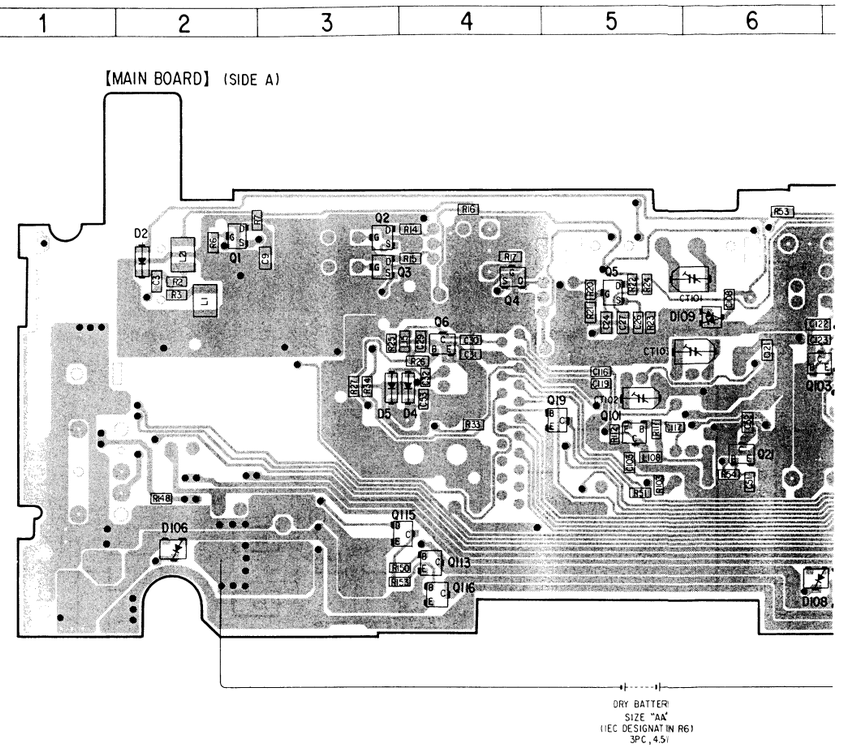
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D1	B-21	IC102	B-14	Q101	C-5
D2	B-2	IC103	C-14	Q102	C-7
D4	C-4	IC104	D-16	Q103	C-6
D5	C-3	IC105	D-19	Q104	C-8
D6	C-19	IC301	K-5	Q105	B-8
D7	D-18	IC350	J-15	Q106	C-7
D8	D-17	IC351	I-18	Q107	D-15
D101	B-17	IC352	I-18	Q108	D-8
D102	C-17			Q109	B-8
D103	C-17	Q1	B-2	Q110	C-9
D104	B-15	Q2	B-3	Q111	B-9
D105	B-7	Q3	B-3	Q112	C-9
D106	D-2	Q4	B-4	Q113	D-4
D107	D-20	Q5	B-5	Q114	D-21
D108	D-6	Q6	C-4	Q115	D-3
D109	B-6	Q7	C-19	Q116	D-4
D110	D-21	Q8	C-18	Q117	B-8
D201	D-10	Q9	C-19	Q118	D-20
D202	D-10	Q10	D-18	Q119	D-20
D301	G-19	Q11	C-18	Q201	D-12
D302	J-5	Q12	C-18	Q202	D-13
D351	K-15	Q13	C-18	Q302	J-18
D352	K-15	Q15	D-15	Q303	K-18
D353	K-15	Q16	D-15	Q304	K-18
D354	K-8	Q17	D-17	Q305	J-4
D355	J-8	Q18	D-17	Q306	J-4
D356	J-8	Q19	C-5	Q351	J-14
D357	H-19	Q20	D-15	Q352	J-7
		Q21	C-6	Q353	H-19
IC101	C-16	Q22	C-20		

Note:

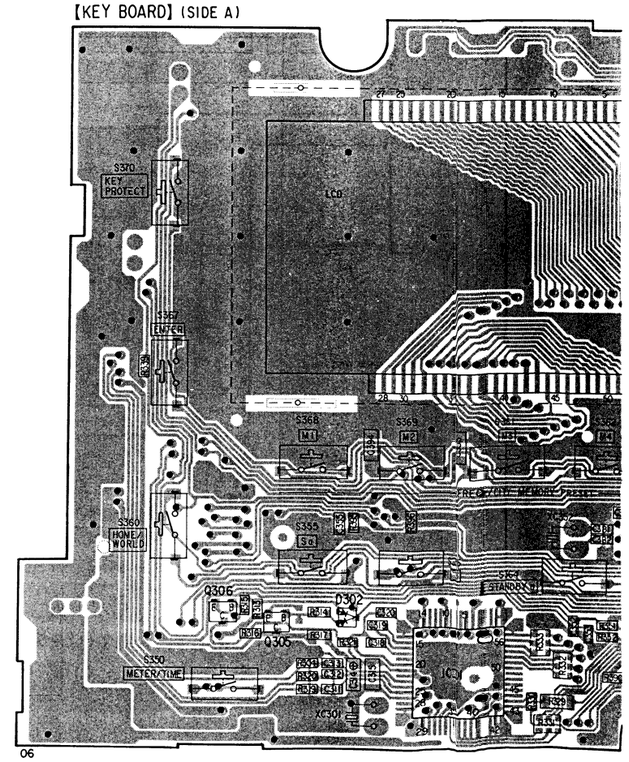
- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- : indicates side identified with part number.
- ● : Through hole.
- : Pattern on the side which is seen.
- △ : internal component.

4-4. PRINTED WIRING BOARDS

【MAIN BOARD】 (SIDE A)

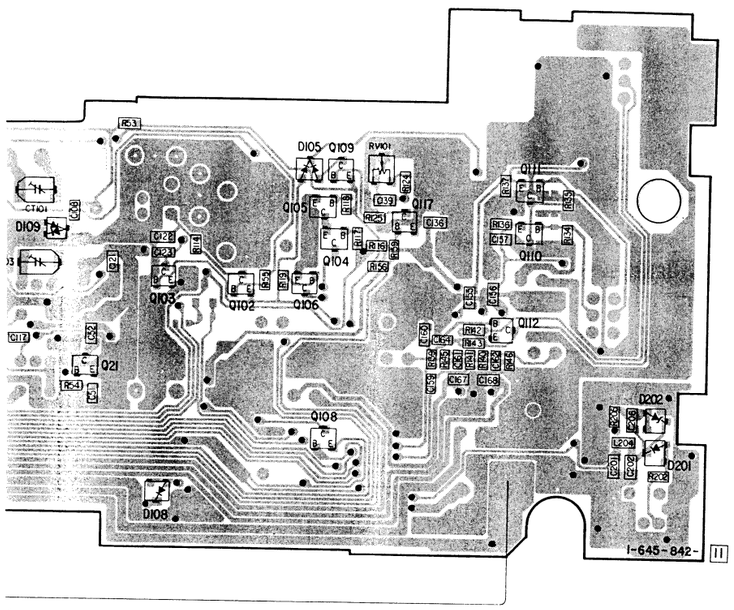


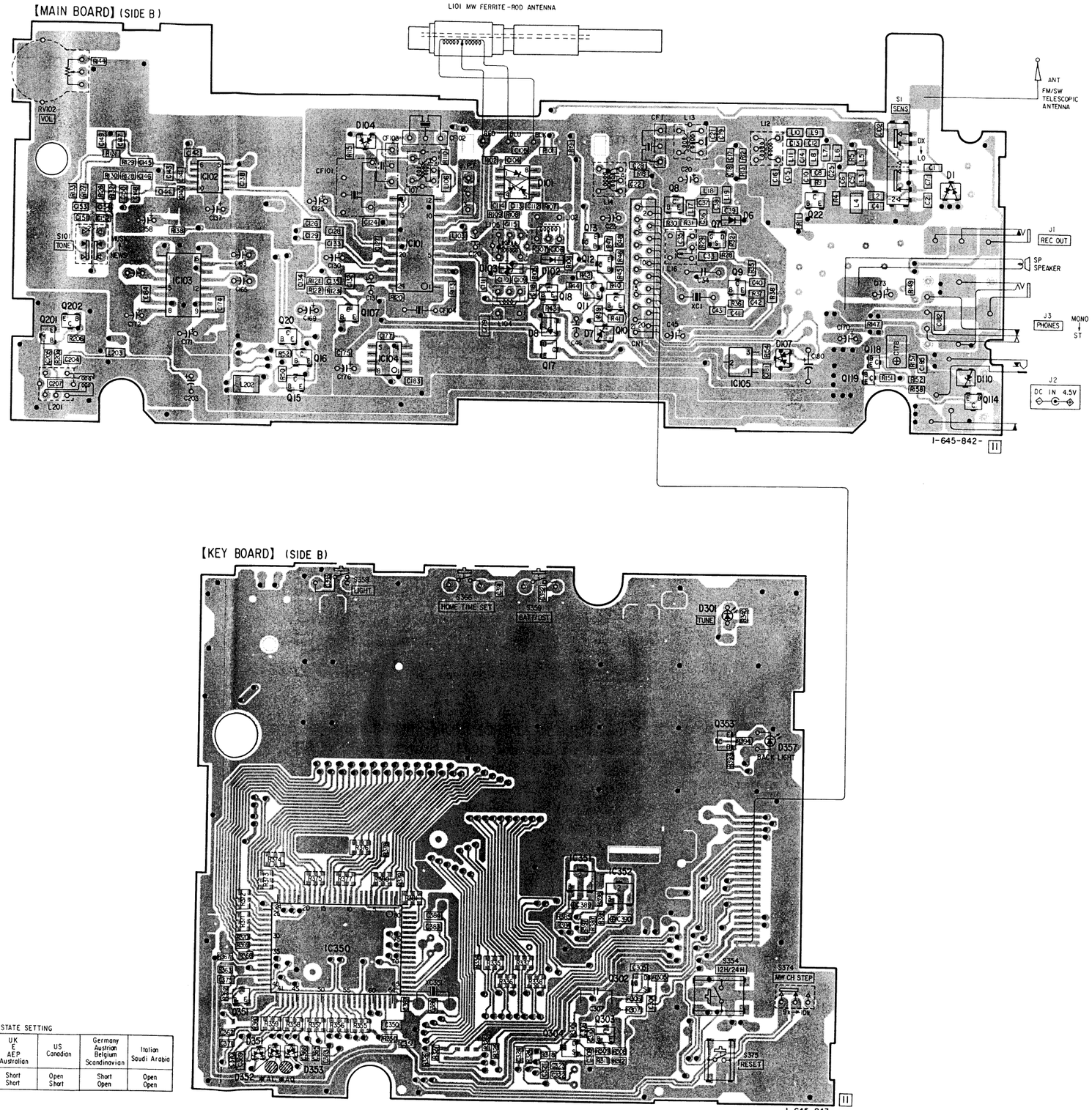
【KEY BOARD】 (SIDE A)

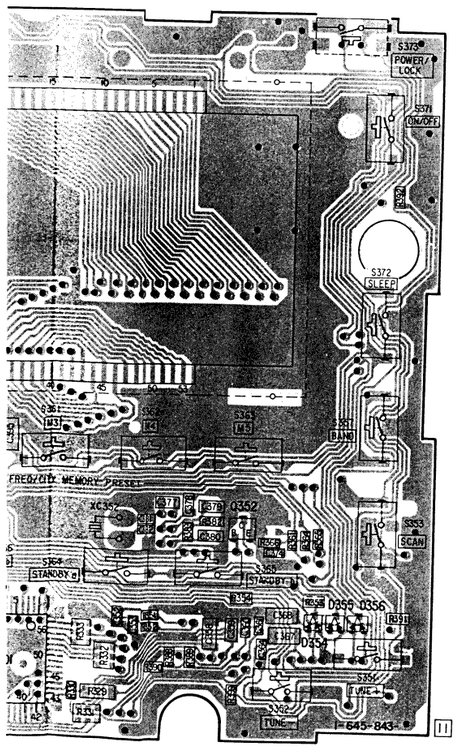


6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

【MAIN BOARD】(SIDE B)







【KEY BOARD】(SIDE B)

* INITIAL-STATE SETTING

MODEL / Short land	UK E AEP Australian	US Canadian	Germany Austrian Belgium Scandinavian	Italian Saudi Arabia
A0	Short	Open	Short	Open
A1	Short	Short	Open	Open

4-5. SCHEMATIC DIAGRAM • See pages 16 for IC Block Diagrams.

【KEY BOARD】

※INITIAL-STATE SETTING

Short land \ MODEL	UK E AEP Australian	US Canadian	Germany Austrian Belgium Scandinavian	Italian Saudi Arabia
A0	Short	Open	Short	Open
A1	Short	Short	Open	Open

Q353 DTC124TK-T146 LED DRIVE

D357 SLP301F-51-AB BACK LIGHT

D301 SLP181B

IC351 S-80720AN-DH-TI RESET

IC352 S-80728AN-DR-TI FAIL

IC350 μPD17P201AGF SYSTEM CONTROL LCD DRIVE

IC301 μPD1724G SYSTEM CONTROL LCD DRIVE

Q351 DTA144EX-T146 POWER CHECK

Q352 DTC144EK-T146 POWER CHECK

Q305 2SA1411-M16 POWER SW

D302 DAN202UT106 POWER SW

Q306 2SC1623-T1-L5L6 POWER SW

Q304 2SK209G-TE85L PLL-L.P.F

Q302 2SK209G-TE85L PLL-L.P.F

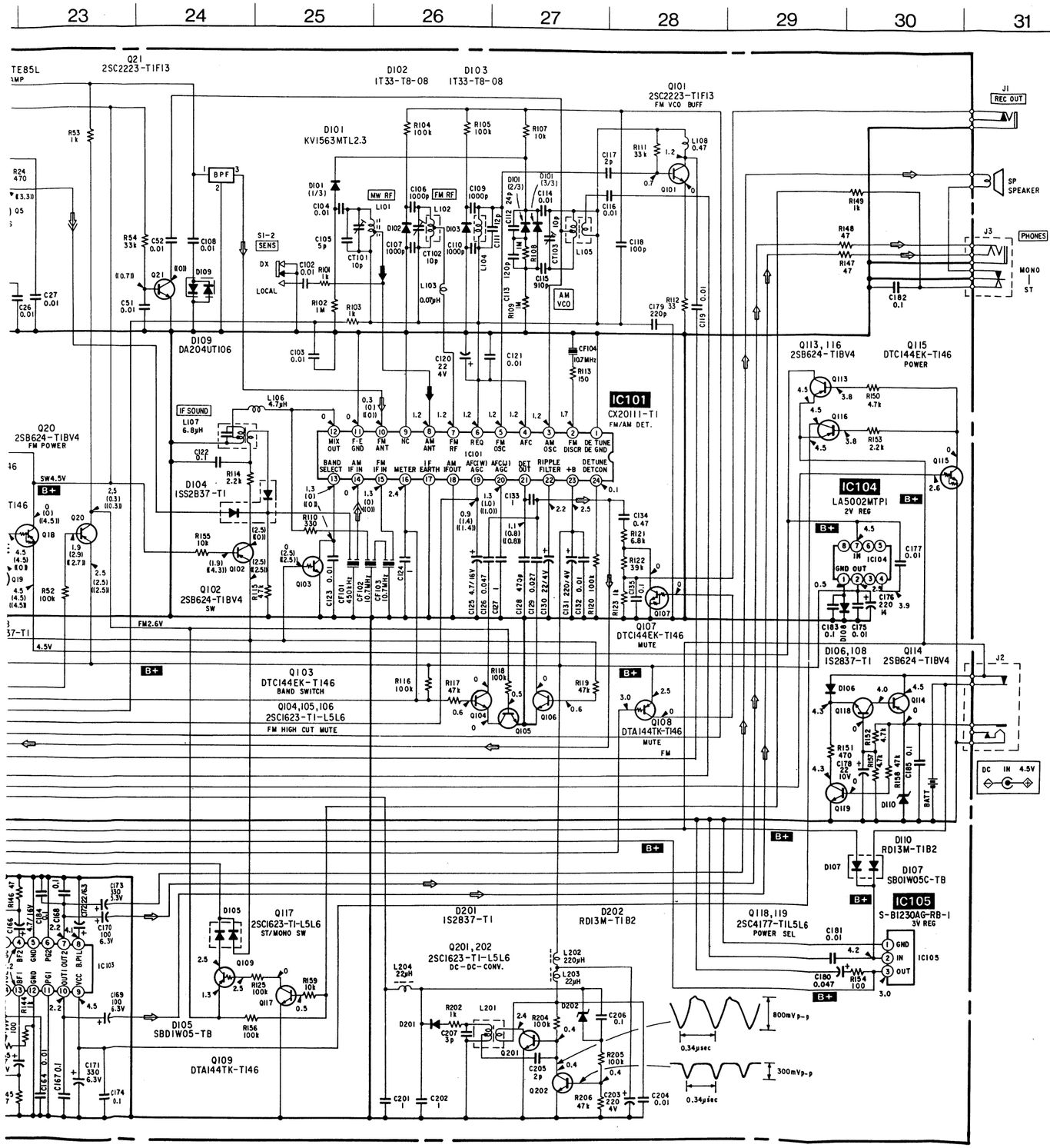
Q303 2SC1623-T1-L5L6 PLL-L.P.F

LCD

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

【MAIN BOARD】

Q1 2SK508-TIK52 SW RF AMP
Q2 2SK508-TIK52 SW 1st MIX
Q4 2SK209G-TE85L SW 2nd MIX
Q5 2SK209G-TE85L SW IF AMP
Q21 2SC2223-TIF13
D102 IT33-T8-08
D103 IT33-T8-08
Q101 2SC2223-TIF13 FM VCO BUFF
J1 REC OUT
SP SPEAKER
J3 PHONES
MONO ST
ANT
D1 ISS123-TI
DX
LOCAL
SI-1 SENS
D2 ISS279-TI
Q22 2SD596-TIDV4 SWITCH
560mVp-p
20.99MHz (BAND: SW)
Q3 2SK508-TIK52
1st LOCAL 25.14 ~47.54MHz(3700~26100kHz)
(1st IF 21.44MHz)
2nd LOCAL 20.99MHz
(2nd IF 450kHz)
1st IF
2nd IF L14 450kHz
CF1 21.44MHz
BPF
D101 KV1563MTL2.3
MW RF
FM RF
AM VCO
SI-2 SENS
D109 DA204UT106
Q21
D109
Q101 2SC2223-TIF13 FM VCO BUFF
Q6 2SC2223-TIF13 SW 1st LOCAL
Q7 2SK210GR-TF85L SW 1st LOCAL
Q8 2SC2223-TIF13 SW 1st OSC BUFFER
Q9 2SC2223-TIF3 SW 2nd LOCAL
Q11 2SC1623-TI-L6 AGC
Q10 2SC1623-TI-L6 AGC
Q12 2SC1623-TI-L5L6 AFC AMP
Q13 2SD596-TIDV4 AFC AMP
Q16 2SB624-TIBV4 AM POWER
Q17,18 DTA123JK-T146 SW POWER
Q15 DTC144EK-T146 AMP POWER
Q19 DTC144TK-T146 POWER
Q20 2SB624-TIBV4 FM POWER
SW 3V
SW4.5V
AM 2.6V
FM2.6V
BAND AM
BAND SW
AGC
REG
IF SOUND
L107 6.8μH
D104 ISS2837-TI
Q102 2SB624-TIBV4 SW
Q103 DTC144EK-T146 BAND SWITCH
Q104,105,106 2SC1623-TI-L5L6 FM HIGH CUT MUTE
Q103 DTC144EK-T146 MUTE
Q107 DTC144EK-T146 MUTE
Q108 DTA144TK-T146 MUTE FM
IC101 CX20111-TI FM/AM DET.
IC104 LA5002MTPI 2V REG
Q113,116 2SB624-TIBV4
Q115 DTC144EK-T146 POWER
D106,108 IS2837-TI
Q114 2SB624-TIBV4
D110 RD13M-TIB2
D107 SB01W05C-TB
IC105 S-BI230AG-RB-I 3V REG
DC IN 4.5V
D105 SB01W05-TB
Q109 DTA144TK-T146
Q117 2SC1623-TI-L5L6 ST/MONO SW
Q118,119 2SC4177-TIL5L6 POWER SEL
D201 IS2837-TI
Q201,202 2SC1623-TI-L5L6 DC-DC-CONV.
D202 RD13M-TIB2
800mVp-p
0.34μsec
300mVp-p
0.34μsec
IC102 LA3335MTPI MPX
FM STEREO
STOP VCO LED GND
Rch Lch +B VCO NC
IN LOOP
Q110,111 2SC1623-TI-L5L6 ACTIVE FILTER
S101 TONE MUSIC
NEWS
IC103 CXA1522M-T3 AUDIO POWER AMP
Q112 DTA144TK-T146 MUTE
VOL min:1.2
VOL max:0
RV102 50k VOL
CN1
RF GND
2.6V
BAND SW
BAND AM
SD
REG
VT
SW
FM
13mb
MW
POWER
DC-DC-CONV.
MUTE
VSS
4.5V
VDD
BEEP



Note:

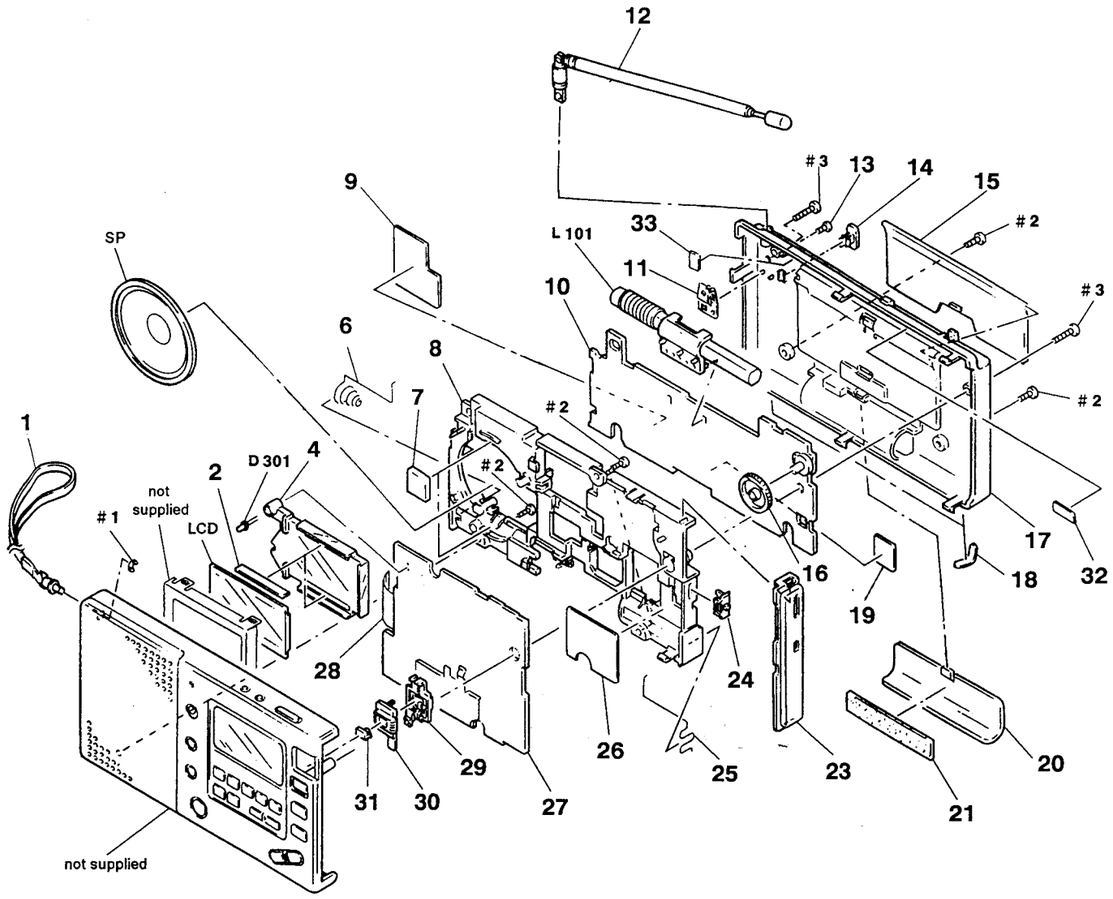
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ⅛W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ line.
- ▭ : adjustment for repair.
- Power voltage is dc 4.5V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW
  (( )) : SW
  - Voltages are taken with a VOM. (Input impedance 10MΩ)

  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨⇨ : WM

SECTION 5
EXPLODED VIEW

NOTE:

- -XX,-X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Abbreviations
  EA ··· Soudi Arabia model
  22AE7 ··· Austrian, Belgium models
  21AE7 ··· Scandinavian Countries model



Ref.No.	Part No.	Description	Remark
1	3-899-848-01	STRAP, HAND	
2	1-537-465-11	CONDUCTIVE BOARD, CONNECTION	
4	3-383-863-01	PLATE, LIGHT GUIDE	
6	3-383-879-01	TERMINAL (MINUS), BATTERY	
7	3-383-883-01	CUSHION (SPEAKER)	
8	3-383-850-01	CHASSIS	
9	3-383-884-01	SHEET (A)	
* 10	A-3679-462-A	MAIN BOARD, COMPLETE (21AE7, 22AE7, Germany, Italian, EA)	
* 10	A-3679-464-A	MAIN BOARD, COMPLETE (US, Canadian, UK, AEP, E, Australian)	
11	3-383-877-01	PLATE (ANT), CONTACT	
12	1-501-222-71	ANTENNA, TELESCOPIC (FM)	
13	3-385-945-01	SCREW (M3X6)	
14	3-383-855-01	KNOB (SENS)	
15	3-893-839-11	STAND	
16	3-383-856-01	KNOB (VOL)	
17	3-383-849-01	CABINET (REAR)	
18	3-383-881-01	FOOT, RUBBER	
19	3-383-885-01	SHEET (B)	
20	3-383-852-01	LID, BATTERY CASE	
21	3-383-882-01	CUSHION (BATTERY CASE LID)	
23	3-383-851-01	PANEL, SIDE	
24	3-383-854-01	KNOB (TONE)	
25	3-383-878-01	TERMINAL (PLUS), BATTERY	
* 26	3-383-886-01	SHEET, COPPER FOIL	
* 27	A-3679-463-A	KEY BOARD, COMPLETE	
28	1-645-844-11	FLEXIBLE BOARD	
29	3-383-864-01	RETAINER	
30	3-383-857-01	KNOB (LOCK) (POWER/LOCK)	
31	3-383-858-01	BUTTON (POWER) (ON/OFF)	
* 32	3-306-440-00	RETAINER, TRANSPARENT PLATE	
* 33	3-354-631-01	CUSHION (RF)	
D301	8-719-812-41	LED TLR124 (TUNE)	
L101	1-501-566-11	ANTENNA, FERRITE-ROD (LW/MW/SW)	
LCD	1-809-910-11	DISPLAY PANEL, LIQUID CRYSTAL	
SP	1-504-161-11	SPEAKER (6.6CM)	

KEY

SECTION 6
ELECTRICAL PART

NOTE:

- Due to standardization, replacements in the parts list may be different from the part specified in the diagrams or the components used on the set.
- -XX,-X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- Items marked " * " are not stc they are seldom required for r vice. Some delay should be when ordering these items.
- SEMICONDUCTORS
  In each case,u : μ ,for example uA... : μA..., uPA... : μPA..., uPB... : μPB..., uPC... : μPC... uPD... : μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref.No.	Part No.	Description			Remark
*	A-3679-463-A	KEY BOARD, COMPLETE			
		**********			
	1-537-465-11	CONDUCTIVE BOARD, CONNECTION			
	1-645-844-11	FLEXIBLE BOARD			
	3-383-863-01	PLATE, LIGHT GUIDE			
		< CAPACITOR >			
C304	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C305	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C306	1-162-962-11	CERAMIC CHIP	470PF	10% 50V	
C307	1-130-834-00	FILM	1uF	10% 63V	
C309	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C310	1-162-953-11	CERAMIC CHIP	100PF	5% 50V	
C311	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C312	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C313	1-162-953-11	CERAMIC CHIP	100PF	5% 50V	
C314	1-135-151-21	TANTAL. CHIP	4.7uF	20% 4V	
C315	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C318	1-164-156-11	CERAMIC CHIP	0.1uF	25V	
C319	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C320	1-164-156-11	CERAMIC CHIP	0.1uF	25V	
C321	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C322	1-162-947-11	CERAMIC CHIP	33PF	5% 50V	
C323	1-164-455-11	CERAMIC CHIP	16PF	5% 50V	
C324	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C350	1-164-506-11	CERAMIC CHIP	4.7uF	16V	
C351	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C352	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C353	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C355	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C358	1-163-205-00	CERAMIC CHIP	0.001uF	5% 50V	
C359	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C360	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	

Ref.No.
C361
C362
C363
C364
C365
C366
C367
C368
C369
C370
C371
C374
C375
C377
C378
C379
C380
C381
C382
C383
C384
C387
C388
C389
C390
C391
C392
C393
C394
C395

SECTION 6
ELECTRICAL PARTS LIST

ements in the
om the part
the compo-

arts, so they
om the orig-

ide-film re-

- Items marked "＊" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case,u : μ ,for example :
  uA... : μA..., uPA... : μPA...,
  uPB... : μPB..., uPC... : μPC...,
  uPD... : μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

When indicating parts by reference number, please include the board name.

- Abbreviations
  EA…Soudi Arabia model
  22AE7…Austrian, Belgium models
  21AE7…Scandinavian Countries model

ption	Remark
ARD, COMPLETE	
**********	
CTIVE BOARD, CONNECTION	
LE BOARD	
LIGHT GUIDE	
ACITOR >	
IC CHIP 0.01uF	50V
IC CHIP 0.01uF	50V
C CHIP 470PF	10% 50V
1uF	10% 63V
IC CHIP 0.01uF	50V
IC CHIP 100PF	5% 50V
IC CHIP 0.01uF	10% 25V
IC CHIP 0.01uF	10% 25V
IC CHIP 100PF	5% 50V
L. CHIP 4.7uF	20% 4V
IC CHIP 0.01uF	10% 50V
IC CHIP 0.1uF	25V
IC CHIP 0.01uF	10% 25V
IC CHIP 0.1uF	25V
IC CHIP 0.01uF	50V
IC CHIP 33PF	5% 50V
IC CHIP 16PF	5% 50V
IC CHIP 0.1uF	25V
IC CHIP 4.7uF	16V
IC CHIP 0.1uF	10% 25V
IC CHIP 0.01uF	10% 25V
IC CHIP 0.01uF	10% 25V
IC CHIP 0.01uF	50V
IC CHIP 0.001uF	5% 50V
IC CHIP 0.001uF	10% 50V
IC CHIP 0.001uF	10% 50V

Ref.No.	Part No.	Description			Remark
C361	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C362	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C363	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C364	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C365	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C366	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C367	1-163-189-00	CERAMIC CHIP	220PF	10%	50V
C368	1-163-189-00	CERAMIC CHIP	220PF	10%	50V
C369	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C370	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C371	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C374	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C375	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C377	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C378	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C379	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C380	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C381	1-164-113-11	CERAMIC CHIP	20PF	5%	50V
C382	1-164-113-11	CERAMIC CHIP	20PF	5%	50V
C383	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C384	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C387	1-164-457-11	CERAMIC CHIP	30PF	5%	50V
C388	1-164-457-11	CERAMIC CHIP	30PF	5%	50V
C389	1-135-151-21	TANTAL. CHIP	4.7uF	20%	4V
C390	1-135-181-21	TANTAL. CHIP	4.7uF	20%	6.3V
C391	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C392	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C393	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C394	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C395	1-163-181-00	CERAMIC CHIP	100PF	5%	50V

Ref.No.	Part No.	Description	Remark
		< DIODE >	
D301	8-719-812-41	LED TLR124 (TUNE)	
D302	8-719-941-86	DIODE DAN202U	
D351	8-719-941-09	DIODE DAP202U	
D352	8-719-941-09	DIODE DAP202U	
D353	8-719-941-09	DIODE DAP202U	
D354	8-719-941-86	DIODE DAN202U	
D355	8-719-941-86	DIODE DAN202U	
D356	8-719-941-86	DIODE DAN202U	
D357	8-719-980-90	LED SLP381F-51-AB (BACKLIGHT)	
		< IC >	
IC301	8-759-158-57	IC uPD1724GB-612-1A7	
IC350	8-759-158-56	IC uPD17201AGF-655-3B9	
IC351	8-759-070-05	IC S-80720AN-DH-S	
IC352	8-759-096-23	IC S-80728AN-DR-T1	
		< LIQUID CRYSTAL DISPLAY >	
LCD	1-809-910-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q302	8-729-220-93	TRANSISTOR 2SK209-G	
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q304	8-729-220-93	TRANSISTOR 2SK209-G	
Q305	8-729-018-90	TRANSISTOR 2SA1411-T1BM16	
Q306	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q351	8-729-901-06	TRANSISTOR DTA144EK	
Q352	8-729-901-01	TRANSISTOR DTC144EK	
Q353	8-729-920-08	TRANSISTOR DTC124TK	
		< RESISTOR >	
R304	1-216-813-11	METAL GLAZE 220 5%	1/16W
R305	1-216-821-11	METAL GLAZE 1K 5%	1/16W
R306	1-216-821-11	METAL GLAZE 1K 5%	1/16W
R307	1-216-821-11	METAL GLAZE 1K 5%	1/16W
R308	1-216-864-11	METAL GLAZE 0 5%	1/16W
R309	1-216-809-11	METAL GLAZE 100 5%	1/16W
R310	1-216-831-11	METAL GLAZE 6.8K 5%	1/16W
R311	1-216-833-11	METAL GLAZE 10K 5%	1/16W
R312	1-216-831-11	METAL GLAZE 6.8K 5%	1/16W
R313	1-216-853-11	METAL GLAZE 470K 5%	1/16W
R314	1-216-849-11	METAL GLAZE 220K 5%	1/16W
R315	1-216-833-11	METAL GLAZE 10K 5%	1/16W
R316	1-216-821-11	METAL GLAZE 1K 5%	1/16W
R317	1-216-001-00	METAL GLAZE 10 5%	1/10W
R318	1-216-833-11	METAL GLAZE 10K 5%	1/16W
R319	1-216-813-11	METAL GLAZE 220 5%	1/16W
R320	1-216-813-11	METAL GLAZE 220 5%	1/16W
R321	1-216-821-11	METAL GLAZE 1K 5%	1/16W

KEY

KEY **MAIN**

Ref.No.	Part No.	Description			Remark
R324	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R325	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R326	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R327	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R328	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R329	1-216-198-00	METAL GLAZE	1K	5%	1/8W
R330	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R331	1-236-499-11	RES, NETWORK	1K X 3		
R332	1-236-502-11	RES, NETWORK	100K X 3		
R333	1-236-502-11	RES, NETWORK	100K X 3		
R334	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R335	1-236-502-11	RES, NETWORK	100K X 3		
R336	1-236-502-11	RES, NETWORK	100K X 3		
R337	1-236-502-11	RES, NETWORK	100K X 3		
R338	1-236-502-11	RES, NETWORK	100K X 3		
R339	1-216-818-11	METAL GLAZE	560	5%	1/16W
R340	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R350	1-216-864-11	METAL GLAZE	0	5%	1/16W
R351	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R352	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R353	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R354	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R355	1-236-499-11	RES, NETWORK	1K X 3		
R356	1-236-499-11	RES, NETWORK	1K X 3		
R357	1-236-500-11	RES, NETWORK	10K X 3		
R358	1-236-500-11	RES, NETWORK	10K X 3		
R359	1-236-500-11	RES, NETWORK	10K X 3		
R360	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R361	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R362	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R363	1-216-848-11	METAL GLAZE	180K	5%	1/16W
R364	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R365	1-216-834-11	METAL GLAZE	12K	5%	1/16W
R366	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R367	1-216-797-11	METAL GLAZE	10	5%	1/16W
R368	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R369	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R370	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R371	1-236-502-11	RES, NETWORK	100K X 3		
R372	1-236-502-11	RES, NETWORK	100K X 3		
R373	1-236-502-11	RES, NETWORK	100K X 3		
R374	1-236-502-11	RES, NETWORK	100K X 3		
R375	1-236-502-11	RES, NETWORK	100K X 3		
R376	1-236-502-11	RES, NETWORK	100K X 3		
R377	1-236-502-11	RES, NETWORK	100K X 3		
R378	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R379	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R380	1-236-502-11	RES, NETWORK	100K X 3		
R381	1-236-502-11	RES, NETWORK	100K X 3		
R382	1-216-857-11	METAL GLAZE	1M	5%	1/16W

Ref.No.	Part No.	Description	
R383	1-216-857-11	METAL GLAZE	1M
R384	1-216-821-11	METAL GLAZE	1K
R385	1-216-857-11	METAL GLAZE	1M
R386	1-216-857-11	METAL GLAZE	1M
R387	1-216-821-11	METAL GLAZE	1K
R388	1-216-849-11	METAL GLAZE	220K
R389	1-216-849-11	METAL GLAZE	220K
R390	1-216-849-11	METAL GLAZE	220K
R391	1-216-849-11	METAL GLAZE	220K
R392	1-216-837-11	METAL GLAZE	22K
R393	1-216-837-11	METAL GLAZE	22K
R394	1-216-809-11	METAL GLAZE	100
R395	1-216-863-11	METAL GLAZE	3.3
R396	1-216-295-11	METAL GLAZE	0
R397	1-216-837-11	METAL GLAZE	22K
R398	1-216-833-11	METAL GLAZE	10K
R399	1-216-864-11	METAL GLAZE	0
		< SWITCH >	
S350	1-572-473-11	SWITCH, TACTIL	(ME
S351	1-572-473-11	SWITCH, TACTIL	(TU
S352	1-572-473-11	SWITCH, TACTIL	(TU
S353	1-572-473-11	SWITCH, TACTIL	(SC
S354	1-572-595-11	SWITCH, TACTIL	(RE
S355	1-572-473-11	SWITCH, TACTIL	(Sa
S356	1-572-473-11	SWITCH, TACTIL	(Sb
S357	1-572-473-11	SWITCH, TACTIL	(BA
S358	1-572-499-11	SWITCH, TACTIL	(LI
S359	1-572-499-11	SWITCH, TACTIL	(BA
S360	1-572-473-11	SWITCH, TACTIL	(HO
S361	1-572-473-11	SWITCH, TACTIL	(MS
S362	1-572-473-11	SWITCH, TACTIL	(M
S363	1-572-473-11	SWITCH, TACTIL	(MS
S364	1-572-473-11	SWITCH, TACTIL	(ST
S365	1-572-473-11	SWITCH, TACTIL	(ST
S366	1-572-499-11	SWITCH, TACTIL	(HO
S367	1-572-473-11	SWITCH, TACTIL	(EN
S368	1-572-473-11	SWITCH, TACTIL	(M1
S369	1-572-473-11	SWITCH, TACTIL	(M2
S370	1-572-473-11	SWITCH, TACTIL	(KE
S371	1-572-473-11	SWITCH, TACTIL	(ON
S372	1-572-473-11	SWITCH, TACTIL	(SL
S373	1-571-754-11	SWITCH, PUSH (1 KEY	
S374	1-570-863-11	SWITCH, SLIDE	(MW
S375	1-572-921-11	SWITCH, KEY BOARD	

KEY MAIN

Ref.No.	Part No.	Description			Remark
R383	1-216-857-11	METAL GLAZE	1M	5%	1/16W
R384	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R385	1-216-857-11	METAL GLAZE	1M	5%	1/16W
R386	1-216-857-11	METAL GLAZE	1M	5%	1/16W
R387	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R388	1-216-849-11	METAL GLAZE	220K	5%	1/16W
R389	1-216-849-11	METAL GLAZE	220K	5%	1/16W
R390	1-216-849-11	METAL GLAZE	220K	5%	1/16W
R391	1-216-849-11	METAL GLAZE	220K	5%	1/16W
R392	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R393	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R394	1-216-809-11	METAL GLAZE	100	5%	1/16W
R395	1-216-863-11	METAL GLAZE	3.3M	5%	1/16W
R396	1-216-295-11	METAL GLAZE	0	5%	1/10W
R397	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R398	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R399	1-216-864-11	METAL GLAZE	0	5%	1/16W

< SWITCH >

S350	1-572-473-11	SWITCH, TACTIL	(METER/TIME)
S351	1-572-473-11	SWITCH, TACTIL	(TUNE +)
S352	1-572-473-11	SWITCH, TACTIL	(TUNE -)
S353	1-572-473-11	SWITCH, TACTIL	(SCAN)
S354	1-572-595-11	SWITCH, TACTIL	(REFLOW TYPE) (12H/24H)
S355	1-572-473-11	SWITCH, TACTIL	(Sa)
S356	1-572-473-11	SWITCH, TACTIL	(Sb)
S357	1-572-473-11	SWITCH, TACTIL	(BAND)
S358	1-572-499-11	SWITCH, TACTIL	(LIGHT)
S359	1-572-499-11	SWITCH, TACTIL	(BATT/DST)
S360	1-572-473-11	SWITCH, TACTIL	(HOME/WORLD)
S361	1-572-473-11	SWITCH, TACTIL	(M3)
S362	1-572-473-11	SWITCH, TACTIL	(M4)
S363	1-572-473-11	SWITCH, TACTIL	(M5)
S364	1-572-473-11	SWITCH, TACTIL	(STANDBY a)
S365	1-572-473-11	SWITCH, TACTIL	(STANDBY b)
S366	1-572-499-11	SWITCH, TACTIL	(HOME TIME SET)
S367	1-572-473-11	SWITCH, TACTIL	(ENTER)
S368	1-572-473-11	SWITCH, TACTIL	(M1)
S369	1-572-473-11	SWITCH, TACTIL	(M2)
S370	1-572-473-11	SWITCH, TACTIL	(KEY PROTECT)
S371	1-572-473-11	SWITCH, TACTIL	(ON/OFF)
S372	1-572-473-11	SWITCH, TACTIL	(SLEEP)
S373	1-571-754-11	SWITCH, PUSH (1 KEY)	(POWER/LOCK)
S374	1-570-863-11	SWITCH, SLIDE	(MW CH STEP)
S375	1-572-921-11	SWITCH, KEY BOARD	(RESET)

Ref.No.	Part No.	Description	Remark
		< VIBRATOR >	
XC301	1-567-769-11	VIBRATOR, CRYSTAL (75kHz)	
XC351	1-579-825-11	VIBRATOR, CERAMIC (2.62MHz)	
XC352	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	

****

*	A-3679-462-A	MAIN BOARD, COMPLETE	(21AE7, 22AE7, Germany, Italian, EA)
*	A-3679-464-A	MAIN BOARD, COMPLETE	(US, Canadian, UK, AEP, E, Australian)

****

< CAPACITOR >

C1	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C2	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C3	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C4	1-162-934-11	CERAMIC CHIP	3PF	0.25PF	50V
C5	1-162-934-11	CERAMIC CHIP	3PF	0.25PF	50V
C6	1-162-952-11	CERAMIC CHIP	82PF	5%	50V
C7	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C8	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C9	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C10	1-162-952-11	CERAMIC CHIP	82PF	5%	50V
C12	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C13	1-162-930-11	CERAMIC CHIP	1PF	0.25PF	50V
C14	1-164-462-11	CERAMIC CHIP	110PF	5%	50V
C15	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C16	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C17	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C18	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C19	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C20	1-126-154-11	ELECT	47uF	20%	6.3V
C21	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C22	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C23	1-126-154-11	ELECT	47uF	20%	6.3V
C24	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C25	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C26	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C27	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C28	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C29	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C30	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C31	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C32	1-162-929-11	CERAMIC CHIP	0.5PF	0.25PF	50V
C33	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C34	1-136-850-11	FILM	0.1uF	10%	6.3V
C35	1-162-930-11	CERAMIC CHIP	1PF	0.25PF	50V
C36	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C37	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C38	1-162-946-11	CERAMIC CHIP	27PF	5%	50V

Ref. No.	Part No.	Description		Remark	
C39	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C41	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C42	1-162-954-11	CERAMIC CHIP	120PF	5%	50V
C43	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C45	1-126-154-11	ELECT	47uF	20%	6.3V
C46	1-126-157-11	ELECT	10uF	20%	16V
C48	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C51	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C52	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C53	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C102	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C104	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C105	1-162-936-11	CERAMIC CHIP	5PF	0.25PF	50V
C106	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C107	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C108	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C109	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C110	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C111	1-162-942-11	CERAMIC CHIP	12PF	5%	50V
C112	1-164-456-11	CERAMIC CHIP	24PF	5%	50V
C113	1-162-954-11	CERAMIC CHIP	120PF	5%	50V
C114	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C115	1-164-474-11	CERAMIC CHIP	910PF	5%	50V
C116	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C117	1-162-932-11	CERAMIC CHIP	2PF	0.25PF	50V
C118	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C119	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C120	1-124-430-00	ELECT	22uF	20%	4V
C121	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C122	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-164-346-11	CERAMIC CHIP	1uF		16V
C125	1-126-163-11	ELECT	4.7uF	20%	50V
C126	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C127	1-164-346-11	CERAMIC CHIP	1uF		16V
C128	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C129	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C130	1-124-430-00	ELECT	22uF	20%	4V
C131	1-124-434-00	ELECT	220uF	20%	4V
C132	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C133	1-164-346-11	CERAMIC CHIP	1uF		16V
C134	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C135	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C136	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C137	1-126-154-11	ELECT	47uF	20%	6.3V
C138	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C139	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C140	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C141	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C142	1-164-346-11	CERAMIC CHIP	1uF		16V
C143	1-164-346-11	CERAMIC CHIP	1uF		16V
C144	1-164-346-11	CERAMIC CHIP	1uF		16V
C145	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C146	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C147	1-163-023-00	CERAMIC CHIP	0.015uF	10%	50V
C148	1-163-023-00	CERAMIC CHIP	0.015uF	10%	50V
C149	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C150	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C151	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C152	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C153	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C154	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C155	1-164-346-11	CERAMIC CHIP	1uF		16V
C156	1-164-346-11	CERAMIC CHIP	1uF		16V
C157	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C158	1-126-157-11	ELECT	10uF	20%	16V
C159	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C160	1-164-346-11	CERAMIC CHIP	1uF		16V
C161	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C162	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C163	1-126-157-11	ELECT	10uF	20%	16V
C164	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C165	1-126-163-11	ELECT	4.7uF	20%	50V
C166	1-126-163-11	ELECT	4.7uF	20%	50V
C167	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C168	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C169	1-124-584-00	ELECT	100uF	20%	10V
C170	1-124-584-00	ELECT	100uF	20%	10V
C171	1-128-057-11	ELECT	330uF	20%	6.3V
C172	1-126-153-11	ELECT	22uF	20%	6.3V
C173	1-128-057-11	ELECT	330uF	20%	6.3V
C174	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C175	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C176	1-124-434-00	ELECT	220uF	20%	4V
C177	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C178	1-135-161-21	TANTAL. CHIP	22uF	20%	10V
C179	1-163-189-00	CERAMIC CHIP	220PF	5%	50V
C180	1-125-733-31	CAP, DOUBLE LAYER	0.047F		
C181	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C182	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C183	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C184	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C185	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C201	1-164-346-11	CERAMIC CHIP	1uF		16V
C202	1-164-346-11	CERAMIC CHIP	1uF		16V
C203	1-124-434-00	ELECT	220uF	20%	4V
C204	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C205	1-162-932-11	CERAMIC CHIP	2PF		50V

MAIN

Ref.No.	Part No.	Description	Remark
C206	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C207	1-162-934-11	CERAMIC CHIP 3PF	50V
		< CONNECTOR >	
CN1	1-691-397-11	CONNECTOR, FPC 21P	
		< FILTER >	
BPF	1-236-921-21	FILTER, BAND PASS (US, Canadian, UK, AEP, E, Australian)	
BPF	1-239-061-11	FILTER, BAND PASS (21AE7, 22AE7, Germany, Italian, EA)	
CF1	1-579-827-11	FILTER, CERAMIC (21.44MHz)	
CF101	1-579-826-11	FILTER, CERAMIC (450kHz)	
CF102	1-577-599-11	FILTER, CERAMIC (10.7MHz)	
CF103	1-577-599-11	FILTER, CERAMIC (10.7MHz)	
CF104	1-577-599-11	FILTER, CERAMIC (10.7MHz)	
		< TRIMMER >	
CT101	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE) 10P	
CT102	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE) 10P	
CT103	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE) 10P	
		< DIODE >	
D1	8-719-800-76	DIODE 1SS226	
D2	8-719-123-79	DIODE 1SS279	
D4	8-713-300-57	DIODE 1T33	
D5	8-713-300-57	DIODE 1T33	
D6	8-713-300-57	DIODE 1T33	
D7	8-719-400-18	DIODE MA152WK	
D8	8-719-400-18	DIODE MA152WK	
D101	8-719-023-XX	DIODE KV1563MTL-2, 3	
D102	8-713-300-57	DIODE 1T33	
D103	8-713-300-57	DIODE 1T33	
D104	8-719-400-18	DIODE MA152WK	
D105	8-719-031-56	DIODE SB01W05C-TB	
D106	8-719-400-18	DIODE MA152WK	
D107	8-719-031-56	DIODE SB01W05C-TB	
D108	8-719-400-18	DIODE MA152WK	
D109	8-719-941-23	DIODE DA204U	
D110	8-719-106-80	DIODE RD13M-B2	
D201	8-719-400-18	DIODE MA152WK	
D202	8-719-106-80	DIODE RD13M-B2	
		< IC >	
IC101	8-752-050-00	IC CX20111	
IC102	8-759-804-98	IC LA3335M	
IC103	8-752-057-63	IC CXA1522M	
IC104	8-759-804-77	IC LA5002MTP1	
IC105	8-759-939-41	IC S-81230AG-RB-S	

Ref.No.	Part No.	Description	Remark
		< JACK >	
J1	1-563-330-11	JACK (REC OUT)	
J2	1-695-153-11	JACK, DC (DC IN 4.5V)	
J3	1-695-828-11	JACK (PHONES)	
		< COIL >	
L1	1-410-658-31	INDUCTOR CHIP 220uH	
L2	1-410-992-11	INDUCTOR CHIP 0.82uH	
L3	1-410-991-11	INDUCTOR CHIP 0.68uH	
L4	1-410-656-11	INDUCTOR CHIP 150uH	
L5	1-410-999-11	INDUCTOR CHIP 3.3uH	
L6	1-410-991-11	INDUCTOR CHIP 0.68uH	
L7	1-412-004-31	INDUCTOR CHIP 6.8uH	
L8	1-410-991-11	INDUCTOR CHIP 0.68uH	
L9	1-410-990-31	INDUCTOR CHIP 0.56uH	
L10	1-410-994-11	INDUCTOR CHIP 1.2uH	
L11	1-410-992-11	INDUCTOR CHIP 0.82uH	
L12	1-426-357-11	TRANSFORMER, RF	
L13	1-402-813-11	TRANSFORMER, IF	
L14	1-404-444-31	TRANSFORMER, IF	
L15	1-410-989-11	INDUCTOR CHIP 0.47uH	
L16	1-402-814-11	COIL (SW OSC)	
L17	1-410-996-31	INDUCTOR CHIP 1.8uH	
L18	1-410-993-11	INDUCTOR CHIP 1uH	
L19	1-410-986-31	INDUCTOR CHIP 0.27uH	
L21	1-410-658-31	INDUCTOR CHIP 220uH	
L101	1-501-566-11	ANTENNA, FERRITE-ROD (LW/MW/SW)	
L102	1-402-815-11	COIL (WITH CORE) (FM RF)	
L103	1-414-001-11	INDUCTOR CHIP 0.07uH	
L104	1-402-812-11	COIL (FM OSC)	
L105	1-406-487-11	COIL (OSC)	
L106	1-412-002-31	INDUCTOR CHIP 4.7uH	
L107	1-404-444-31	TRANSFORMER, IF	
L108	1-410-989-11	INDUCTOR CHIP 0.47uH	
L201	1-423-377-11	TRANSFORMER, DC-DC CONVERTER	
L202	1-410-658-31	INDUCTOR CHIP 220uH	
L203	1-412-010-41	INDUCTOR CHIP 22uH	
L204	1-412-010-41	INDUCTOR CHIP 22uH	
		< TRANSISTOR >	
Q1	8-729-116-64	TRANSISTOR 2SK508-K51	
Q2	8-729-116-64	TRANSISTOR 2SK508-K51	
Q3	8-729-116-64	TRANSISTOR 2SK508-K51	
Q4	8-729-220-93	TRANSISTOR 2SK209-G	
Q5	8-729-220-93	TRANSISTOR 2SK209-G	
Q6	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q7	8-729-208-47	TRANSISTOR 2SK210GR	
Q8	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q9	8-729-102-07	TRANSISTOR 2SC2223-F13	

Ref. No.	Part No.	Description		Remark
Q10	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q11	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q12	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q13	8-729-141-75	TRANSISTOR	2SD596DV345	
Q15	8-729-901-01	TRANSISTOR	DTC144EK	
Q16	8-729-141-48	TRANSISTOR	2SB624-BV345	
Q17	8-729-923-62	TRANSISTOR	DTA123JK	
Q18	8-729-923-62	TRANSISTOR	DTA123JK	
Q19	8-729-903-30	TRANSISTOR	DTC144TK	
Q20	8-729-141-48	TRANSISTOR	2SB624-BV345	
Q21	8-729-102-07	TRANSISTOR	2SC2223-F13	
Q22	8-729-141-75	TRANSISTOR	2SD596DV345	
Q101	8-729-102-07	TRANSISTOR	2SC2223-F13	
Q102	8-729-141-48	TRANSISTOR	2SB624-BV345	
Q103	8-729-901-01	TRANSISTOR	DTC144EK	
Q104	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q105	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q106	8-729-120-66	TRANSISTOR	2SC1623-L5L6	
Q107	8-729-901-01	TRANSISTOR	DTC144EK	
Q108	8-729-903-29	TRANSISTOR	DTA144TK	
Q109	8-729-903-29	TRANSISTOR	DTA144TK	
Q110	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q111	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q112	8-729-903-29	TRANSISTOR	DTA144TK	
Q113	8-729-141-48	TRANSISTOR	2SB624-BV345	
Q114	8-729-141-48	TRANSISTOR	2SB624-BV345	
Q115	8-729-903-30	TRANSISTOR	DTC144TK	
Q116	8-729-141-48	TRANSISTOR	2SB624-BV345	
Q117	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q118	8-729-117-32	TRANSISTOR	2SC4177-L6	
Q119	8-729-117-32	TRANSISTOR	2SC4177-L6	
Q201	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q202	8-729-120-28	TRANSISTOR	2SC1623-L5L6	

< RESISTOR >

R2	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R3	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R4	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R5	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R6	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R7	1-216-797-11	METAL GLAZE	10	5%	1/16W
R9	1-216-809-11	METAL GLAZE	100	5%	1/16W
R11	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R12	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R13	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R14	1-216-809-11	METAL GLAZE	100	5%	1/16W
R15	1-216-809-11	METAL GLAZE	100	5%	1/16W
R16	1-216-809-11	METAL GLAZE	100	5%	1/16W
R17	1-216-819-11	METAL GLAZE	680	5%	1/16W
R18	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R19	1-216-809-11	METAL GLAZE	100	5%	1/16W
R20	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W
R21	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R22	1-216-809-11	METAL GLAZE	100	5%	1/16W
R23	1-216-809-11	METAL GLAZE	100	5%	1/16W
R24	1-216-817-11	METAL GLAZE	470	5%	1/16W
R25	1-216-817-11	METAL GLAZE	470	5%	1/16W
R26	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R27	1-216-805-11	METAL GLAZE	47	5%	1/16W
R28	1-216-805-11	METAL GLAZE	47	5%	1/16W
R29	1-216-807-11	METAL GLAZE	68	5%	1/16W
R30	1-216-817-11	METAL GLAZE	470	5%	1/16W
R31	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R32	1-216-809-11	METAL GLAZE	100	5%	1/16W
R33	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R34	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R35	1-216-813-11	METAL GLAZE	220	5%	1/16W
R36	1-216-842-11	METAL GLAZE	56K	5%	1/16W
R37	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R38	1-216-295-00	METAL GLAZE	0	5%	1/10W
R39	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R40	1-216-835-11	METAL GLAZE	15K	5%	1/16W
R41	1-216-817-11	METAL GLAZE	470	5%	1/16W
R42	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R43	1-216-809-11	METAL GLAZE	100	5%	1/16W
R44	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R45	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R46	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R47	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R50	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R51	1-216-864-11	METAL GLAZE	0	5%	1/16W
R52	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R53	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R54	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R101	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R102	1-216-857-11	METAL GLAZE	1M	5%	1/16W
R103	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R104	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R105	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R107	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R108	1-216-857-11	METAL GLAZE	1M	5%	1/16W
R109	1-216-857-11	METAL GLAZE	1M	5%	1/16W
R110	1-216-815-11	METAL GLAZE	330	5%	1/16W
R111	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R112	1-216-803-11	METAL GLAZE	33	5%	1/16W
R113	1-216-811-11	METAL GLAZE	150	5%	1/16W
R114	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R115	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R116	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R117	1-216-841-11	METAL GLAZE	47K	5%	1/16W

MAIN

Ref.No.	Part No.	Description			Remark
R118	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R119	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R120	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R121	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W
R122	1-216-840-11	METAL GLAZE	39K	5%	1/16W
R123	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R124	1-216-840-11	METAL GLAZE	39K	5%	1/16W
R125	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R126	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R127	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R128	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R129	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R130	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R131	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R132	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R133	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R134	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R135	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R136	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R137	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R138	1-216-809-11	METAL GLAZE	100	5%	1/16W
R139	1-216-809-11	METAL GLAZE	100	5%	1/16W
R140	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R141	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R142	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R143	1-216-809-11	METAL GLAZE	100	5%	1/16W
R144	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R145	1-216-805-11	METAL GLAZE	47	5%	1/16W
R146	1-216-805-11	METAL GLAZE	47	5%	1/16W
R147	1-216-805-11	METAL GLAZE	47	5%	1/16W
R148	1-216-805-11	METAL GLAZE	47	5%	1/16W
R149	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R150	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R151	1-216-817-11	METAL GLAZE	470	5%	1/16W
R152	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R153	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R154	1-216-809-11	METAL GLAZE	100	5%	1/16W
R155	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R156	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R157	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R158	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R159	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R202	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R204	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R205	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R206	1-216-841-11	METAL GLAZE	47K	5%	1/16W

Ref.No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV101	1-241-595-11	RES, ADJ, METAL GRAZE 22K	
RV102	1-223-232-11	RES, VAR, CARBON 50K (VOL)	
		< SWITCH >	
S1	1-571-277-31	SWITCH, SLIDE (SENS)	
S101	1-572-186-11	SWITCH, SLIDE (TONE)	
		< VIBRATOR >	
XC1	1-579-828-11	VIBRATOR, CRYSTAL (20.99MHz)	

****

MISCELLANEOUS

****

12	1-501-222-71	ANTENNA, TELESCOPIC (FM)	
SP	1-504-161-11	SPEAKER (6.6CM)	

****

ACCESSORIES & PACKING MATERIALS

****

	3-384-273-01	CASE, CARRYING	
*	3-385-394-02	INDIVIDUAL CARTON	
	3-703-264-11	LABEL (B), SERIAL NO	
	3-755-967-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, SWEDISH, PORTUGUESE) (US, Canadian, UK, 21AE7, E)	
	3-755-967-41	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN) (AEP, 22AE7, Italian, Australian)	
	3-755-967-51	MANUAL, INSTRUCTION (ENGLISH, ARABIC) (EA)	
	3-755-967-61	MANUAL, INSTRUCTION (DANISH, FINNISH) (21AE7)	
	3-755-967-71	MANUAL, INSTRUCTION (GERMAN) (Germany)	
	3-893-940-17	GUIDE, SHORT WAVE	

****

****

HARDWARE LIST

****

#1	7-624-104-04	STOP RING 2.0, TYPE -E	
#2	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT	
#3	7-685-651-79	SCREW +P 3X20 TYPE2 NON-SLIT	

English
92K06103-1
Printed in Japan
©1992.11
Published by Audio Corporate Planning Group

9-957-503-11

Sony Corporation
Personal Telecommunications Group